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ABOUT PRISONERS AND DICTATORS: THE ROLE OF OTHER-SELF FOCUS, SOCIAL VALUE ORIENTATION, AND STEREOTYPE PRIMES IN SHAPING COOPERATIVE BEHAVIOR

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About Prisoners and Dictators: The Role of Other-Self Focus, Social Value Orientation, and Stereotype Primes in Shaping Cooperative Behavior

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Abstract

Six experiments examined the effects of person factors (i.e., social value orientation and consistency) and situation factors (i.e., stereotype primes) on cooperative behavior in various experimental games. Results indicated that the main and joint influences of person and situation factors on cooperative choices depend on the nature of the game (i.e., prisoner's dilemma or dictator game). Social value orientation, consistency, and primes affect cooperative behavior only in a dictator game, while these factors also lead to rumination about partner's behavioral intentions and personality (and therefore to different cooperative choices) in a prisoner's dilemma game. Differences between these games were explained in terms of the impact they have on other- and self-focus.

Key words: Prisoner's dilemma game, Dictator game, Social Value Orientation, Consistency, Stereotype Priming

About Prisoners and Dictators: The Role of Other-Self Focus, Social Value Orientations, and Stereotype Primes in Shaping Cooperative Behavior

The doctrine of rational self interest predicts that cooperative outcomes should be very small in interpersonal and group interaction. Nonetheless, it is often observed, both in real-life and in experimental games, that people tend to give to their partners, to beggars, to public goods, to good causes, and they often contribute considerable sums. This observation has caused researchers to re-examine models of cooperative behavior by incorporating the assumption that people do not always behave according their self-interest.

Cooperative behavior has often been investigated in the context of interdependent dilemmas such as prisoner's dilemma games or social dilemmas. These situations are interdependent because outcomes of involved people are dependent on each other, and they consist of dilemmas because they involve conflicting motives between pursuing immediate self-interest or collective interest. A large stream of work has demonstrated that cooperative behavior in these games is influenced by interpersonal dispositions such as social value orientation (SVO) (McClintock, 1972). A limited amount of research has demonstrated that cooperative behavior may also vary with subtle situational influences such as primes (e.g., Herr, 1986; Hertel & Fiedler, 1994, 1998; Hertel & Kerr, 2001; Neuberg, 1988; Smeesters, Warlop, Van Avermaet, Corneille, & Yzerbyt, in press).

Recent studies demonstrated that consistency of SVO may also play a role by moderating the influence of SVO and primes on cooperative behavior (Hertel & Fiedler, 1998; Smeesters et al., in press). However, research conducted on this factor has led to diverging conclusions. Hertel & Fiedler's (1998) research suggested that primes should have strong effects on cooperative choices, but only for individuals with a low consistent

orientation. Smeesters et al. (in press) however found that primes may also have strong effects on beliefs about the partner for individuals low and high consistent in SVO.

n our view, however, these studies may have relied on different contexts: the study of Smeesters et al. (in press) may have been characterized by a higher level of interdependence than the study by Hertel & Fiedler (1998). This stronger interdependent context may have urged individuals to focus more on beliefs about their partner (such as expectations of partner's cooperation or impressions about the partner) in the study of Smeesters et al. (in press) compared to what took place in Hertel & Fiedler's (1998) experimental setting.

This observation led us to the following question: does an interdependence context lead to a higher attention to partner beliefs (other-focus) and different influences of SVO, consistency, and primes on cooperative behavior than a context in which this interdependence character is attenuated or even non-existing. Six experiments were conducted to examine this issue. We selected two types of experimental games differing in the degree of interdependence: a game characterized by mutual dependence or interdependence (a prisoner's dilemma game) and a game characterized by unilateral dependence (a dictator game).

Influences of Social Value Orientations and Primes on Cooperative Behavior

Research demonstrates that cooperative behavior may vary with a variety of dispositional and situational variables. The dispositional variable that has received most attention in the literature on cooperative behavior is SVO (McClintock, 1972), defined as a particular preference for specific patterns of outcomes for self and others. There is

evidence that at least three orientations can be distinguished (Messick & McClintock, 1968; Kuhlman & Marshello, 1975; Van Lange, 1999; see Van Lange, 2000 for an overview): a pro-social orientation (i.e., the tendency to maximize joint outcomes and to maximize equality in outcomes), an individualistic orientation (i.e., the tendency to maximize own outcomes with little or no consideration about the other's outcomes), and a competitive orientation (i.e., the tendency to maximize the own outcomes relative to the other's outcomes). The latter two orientations are often combined into a group of pro-self orientations because they both are primarily concerned with their own outcomes, either in an absolute or a relative manner (see e.g., Van Lange & Liebrand, 1989, 1991a, 1991b; Van Vugt, Meertens, & Van Lange).

Compared to pro-selfs, pro-socials are more likely to exercise personal restraint and to make cooperative choices in various kinds of situations such as a prisoner's dilemma game (PDG), social dilemmas, negotiations, environmental dilemmas, close relationship, or helping occasions (e.g., De Dreu & Van Lange, 1995; Kramer, McClintock, & Messick, 1986; Liebrand & Van Run, 1985; McClintock & Allison, 1989; McClintock & Liebrand, 1988; Van Lange, Agnew, Harinck, & Steemers, 1997a; Van Vugt et al., 1995). It has also been demonstrated that pro-socials and pro-selfs make different judgments of others. These differences may be interpreted in terms of chronically accessible constructs (Higgins, 1996a; Higgins & King, 1981). Previous research on perceptual differences between pro-socials and pro-selfs suggests that morality is a chronically accessible construct for pro-socials and that might is a chronically accessible construct for pro-selfs (De Bruin & Van Lange, 2000; Liebrand, Jansen, Rijken, & Suhre, 1986; Sattler & Kerr). Pro-socials tend to interpret situations in terms of morality, pro-selfs in terms of might.

Many studies also showed that cooperative behavior may vary with situational cues such as personality impressions of the interaction partner (e.g., De Bruin & Van Lange, 1999a, 1999b; Van Lange & Kuhlman, 1994), specific-features associated with close relationships (e.g., Rusbult, Verette, Whitney, Slovik, & Lipkus, 1991; Van Lange, Rusbult, Drigotas, Arriaga, Witcher, & Cox, 1997b), and social norms (e.g., the need norm, Deutsch, 1975). Van Lange (2000) however argued that situational influences on cooperative behavior can also take the form of priming influences. In the automaticity literature, it is argued that the activation of mentally represented constructs such as traits or stereotypes in one context results in behavior consistent with these constructs in a subsequent unrelated context (e.g., Bargh, Chen, & Burrows, 1996; Dijksterhuis & Van Knippenberg, 1998). In the context of cooperative decision-making, Hertel & Fiedler (1994) showed that the prior activation of morality-related traits elicits more cooperative behavior than the prior activation of might-related traits. Further, Hertel & Kerr (2001) demonstrated that priming loyalty increased in group-favoritism.

Van Lange (2000) argued that cooperative behavior in interdependence dilemmas may be a function of both SVO and primes. In his opinion, one should distinguish weak and strong situations (Snyder & Ickes, 1985), when examining these influences on cooperative behavior. Weak situations (e.g., a neutral priming condition) lack relevant cues to guide cooperative behavior and are relatively ambiguous. In such situations, the influence of SVO on cooperative behavior should be large. Strong situations are characterized by relevant cues/primes that guide cooperative behavior and tend to be unambiguous. In such situations, priming influences should be large. Thus, comparing

weak with strong situations, one should obtain an interaction between SVO and primes (Van Lange, 2000; Van Lange et al., 1997a).

Consistency of Social Value Orientation

Recent research (Hertel & Fiedler, 1998; Smeesters, Warlop, & Van Avermaet, 2002; Smeesters et al., in press) demonstrated that consistency should also be incorporated in research on the effects of SVO and primes on cooperative behavior. Hertel & Fiedler (1998) were the first to notice the importance of this variable. This variable refers to the consistency in the choice pattern with which SVO is measured in the Ring Measure of Social Values[1] (Liebrand, 1984; Liebrand & McClintock, 1988). Hertel & Fiedler (1998) interpreted consistency in terms of a clear-cut decision strategy or orientation. Whereas high consistent (HCon) individuals have a stronger clear-cut decision preference or orientation, low consistent (LCon) individuals do not (yet) have a clearly developed orientation. Conceptually, consistency refers to the dispositional strength of a SVO, with HCon orientations reflecting stronger dispositions and being more stable over time than LCon orientations (Hertel & Fiedler, 1998; Smeesters et al., 2002).

Hertel & Fiedler (1998) studied the influences of morality-related primes versus might-related primes on allocation choices in the Ring Measure of Social Values. Consistency, although measured after the priming procedure, was considered as a pre-experimental independent variable (because it was strongly correlated with a pre-test measure of consistency). Participants were told that they had to make 24 pairwise decisions about the amount of money to be allocated to themselves and to another person. Participants were also told that actual pairing with a partner would be done by chance at the

end of the Ring Measure. The experiment was explicitly designed to minimize rumination about character and strategy of the partner in the game[2]. As a result, allocation decisions afforded a pure measure of SVO rather than an orientation toward the partner. The results showed that morality-related primes increased cooperative allocations whereas might-related primes decreased cooperative allocations, but only for LCon individuals. Hertel & Fiedler (1998) argued that a HCon (but not a LCon) individual's SVO is strong enough to resist priming influences. This result suggests that consistency should moderate the SVO x primes interaction on cooperative behavior. Specifically, this interaction should then only appear for LCon individuals. In stark contrast, cooperative behavior of HCon individuals should only be influenced by their SVO and not by primes.

Smeesters et al. (in press) tested this hypothesis in a real interdependent situation. This was done by assessing SVO and consistency prior to a priming manipulation and measuring the influence of these variables on cooperative behavior in a 2-person PDG. They obtained, however, no support for this hypothesis but instead found that SVO and primes had strong effects on expectations of partner's cooperation for both HCon and LCon individuals. SVO only had an influence on these expectations in the neutral priming condition: pro-socials expected more cooperation of their partner than pro-selfs. In the morality and might priming conditions, expectations of pro-socials and pro-selfs did not differ from each other. Participants in the morality and might priming conditions expected respectively more and less cooperation than in the neutral priming condition. Subsequently, participants used these expectations to determine their own cooperative behavior. HCon pro-socials showed behavioral assimilation: they played cooperatively against a cooperative other but turned to non-cooperative behavior when they expected the

other to be a non-cooperative person. HCon pro-selfs showed non-cooperative behavior in all conditions, even when they believed their partner to be very cooperative, a reaction that Smeesters et al. (in press) typified as exploitation. These results are congruent with models of SVO (Van Lange, 1999). LCon pro-socials and LCon pro-selfs also showed behavioral assimilation. Smeesters et al. (2002) argued that the way LCon individuals deal with these cooperative and non-cooperative expectations is rather determined by default norms associated with these expectations. When playing against a cooperative person, reciprocal cooperative behavior is normative or desirable. When playing against a non-cooperative person, the default norm is to protect oneself by behaving non-cooperatively as well.

The strong interdependence character of Smeesters et al.'s (in press) study might explain why their findings were not entirely in line with those reported by Hertel & Fiedler (1998). In the Smeesters et al. study, participants were told that they were linked with a partner and both were simultaneously going to make a choice affecting each other's outcomes before they made a choice in the PDG. It has often been found and argued that partner beliefs (such as expectations of partner's cooperation and impressions about the partner) are important antecedents of cooperative decision-making in interdependence situations (e.g., De Bruin & Van Lange, 1999a, 1999a; Kelley & Stahelski, 1970; Kelley & Thibaut, 1978; Van Lange & Kuhlman, 1994). In such situations, individuals may be strongly focused on the characteristics and behavioral intentions of the partner (called other-focus) and may strongly engage in rumination about these beliefs. In the Hertel & Fiedler study, participants were told that they would be linked with a partner only after making all their choices. Such a manipulation was intended to dramatically decrease the level of other-focus and minimize rumination about partner beliefs. In other words, the

interdependence character of the Hertel & Fiedler study is likely to have been strongly attenuated. This analysis suggests that social interactions that differ in terms of interdependence may lead to different effects of dispositional and situational influences on cooperative behavior. The focus of our paper is to test in which way the presence or absence of an interdependence situation determines the degree of other-focus and the influence of SVO, consistency, and primes on cooperative behavior.

Prisoner's Dilemma Game versus Dictator Game

The above reasoning suggests that the predictions of Hertel & Fiedler (1998) should be obtained whenever the interdependence character is absent from the context. In such a setting, other-focus and rumination about partner beliefs should not be predominant. A game that may reflect these characteristics is a dictator game (DG). This game reflects a unilateral dependence context (see for example Eckel & Grossman, 1996; Hoffman, McCabe, & Smith, 1996). In a DG, the partner (i.e., the recipient) has no decision power: this person has no money to allocate and has no power in terms of either accepting or rejecting the actor's (i.e., the dictator) offer. Consequently, there are no strategic factors to constrain the dictator's intentions. That is, individuals may afford not to be interested in the characteristics and functioning of the partner. Individuals in a DG also do not spontaneously engage in impression formation (Roth, 1995). As a matter of fact, it is assumed that cooperative behavior in a DG is rather directly influenced by social motives or norms (Bolton, Katok, & Zwick, 1998; Eckel & Grossman, 1996; Forsythe, Horowitz, Savin, & Sefton, 1994; Johannesson & Persson, 2000). Some people may be kind and show compassion with the other person, whereas others are only driven by self-interest.

As already argued, a prisoner's dilemma game has a strong interdependence character and partner beliefs are important antecedents of cooperative decision-making. In such a situation, other-focus might reach a higher level and rumination about the partner may be a more predominant cognitive activity compared to a DG. As in Smeesters et al. (in press), factors such as SVO and primes should have strong influences on these partner beliefs, which may then be inputs for subsequent cooperative decision-making.

Overview of the Studies

This paper has two goals: we wanted to compare (a) differences in other-focus between a PDG and a DG, and (b) the influences of SVO, consistency, and stereotype primes on cooperative behavior in a PDG versus a DG. In contrast to the studies conducted by Hertel & Fiedler (1998) and Smeesters et al. (in press), we decided to examine the effects of stereotype primes instead of trait primes. We examined the effects of a religious versus business stereotype, which are strongly associated with respectively cooperativeness and selfishness (De Dreu, Yzerbyt, & Leyens, 1995). Stereotypes are beliefs that certain traits or acts are characteristic of a particular group of individuals (Brewer, 1988; Fiske, 1998; Fiske & Neuberg, 1990). Activation of a stereotype leads to the automatic activation of traits or attributes associated with this social category (Bargh, 1994; Brewer, 1988; Devine, 1989), which may then influences one's perceptions and judgments about others and one's social behavior. Typically, perceptions and behavior shift in stereotype consistent ways (see e.g., Banaji, Hardin, & Rothman, 1993; Higgins, Rholes, & Jones, 1977; Devine, 1989; for research and Brewer, 1988; Bargh, 1994; Higgins, 1996a, for reviews on automatic social perception; see e.g., Bargh, Chen, & Burrows, 1996;

Dijksterhuis, Aarts, Bargh, & Van Knippenberg, 2000; Dijksterhuis & Van Knippenberg, 1998, 2000, for research and Bargh & Ferguson, 2000; Dijksterhuis & Bargh, 2001; Wheeler & Petty, 2001, for reviews on automatic social behavior).

In Experiment 1, we focused on the effects of SVO, consistency, and primes on cooperative behavior in a PDG as in Smeesters et al. (in press). We tried to replicate and extend this research by demonstrating that the formation of an impression, which remained unmeasured in this study, is also an important factor when playing a PDG. In Experiment 2, we compared differences in other-focus between a PDG and a DG. In Experiment 3, the effects of SVO, consistency, and stereotype primes were examined on cooperative behavior in the context of a DG. Subsequently, we tried to design a paradigm in which we could imitate the contexts of both the PDG and the DG in one experiment. In Experiment 4, we examined the effects of this paradigm on other-focus. In Experiment 5, we used this paradigm to study the effects of SVO and stereotype primes on cooperative behavior for HCon individuals only. Finally, in Experiment 6 we examined how to make LCon individuals behave as HCon individuals in a DG.

Experiment 1

This experiment is of an extension of Smeesters et al.'s (in press) experiments. The primes affected expectations of partner's cooperation in their study, but impressions about the partner were not measured. Information about partner impressions may however provide additional insights regarding the role of partner beliefs in cooperative decision-making. It is often argued that expectations of cooperative behavior are related to morality and might impressions of the partner (e.g., Van Lange & Kuhlman, 1994; Van Lange &

Liebrand, 1989). The results of Smeesters et al. (in press) did not inform us as to how expectations were related to these impressions. Therefore, we selected items that could form a moral impression scale and items that could form a might impression scale.

In line with Smeesters et al. (in press), we expected religious primes to elicit more cooperative behavior than neutral or business primes among all participants but HCon pro-selfs (Hypothesis 1). Further, we hypothesized a main effect of priming on expectations of partner's cooperation: religious and business primes should elicit respectively higher and lower expectations of cooperation from the partner than neutral primes (Hypothesis 2). We also predicted a main effect of SVO on expectations of partner's cooperation: pro-socials should expect more cooperation from their partners than pro-selfs. Consistent with Smeesters et al. (in press), we however expected the impact of SVO to be smaller in the religious and business priming conditions than in the neutral priming condition (Hypothesis 3). We also predicted the correlation between expectations and cooperative behavior to be positive in all conditions except for HCon pro-selfs in the religious priming condition where it should be negative (Hypothesis 4). The latter prediction is derived from the fact that HCon pro-selfs tend to exploit others believed to be very cooperative (Smeesters et al., in press).

Similar to the predictions about expectations of partner's cooperation, we expected SVO and primes to have an impact on impressions about the partner. Because we assume that religiousness is associated with morality and business with might (see also De Dreu et al., 1995), we expected stereotype primes to have a strong effect on the impression measure with which they are associated. Social value orientations should only have an effect in the neutral priming condition: the impression judgments should be dominated by a

participant's chronic construct (morality for pro-socials and might for pro-selfs). Further, we expected expectations of partner's cooperation and cooperative behavior to be only correlated with the impression measures in the priming condition with which these impressions are associated (i.e., with the moral impression in the religious priming condition and with the might impression in the business priming condition). In the neutral priming condition, correlations of expectations of partner's cooperation and cooperative behavior with the impression measures should be only significant for the impression measures that reflect a chronic construct for participants.

More specifically, with respect to the moral impression of the partner, we expected religious primes to elicit more moral judgments than neutral or business primes. Similar to the prediction of expectations of partner's cooperation, we predicted SVO to only influence this judgment in the neutral priming condition: pro-socials should judge their partner as being more moral than pro-selfs do (Hypothesis 5). Further, we expected correlations between the moral impression of the partner and expectations of partner's cooperation to be positive for all participants in the religious priming condition and for HCon and LCon pro-socials in the neutral priming condition. We had the same prediction for the correlations between the moral impression of the partner and cooperative behavior except for HCon pro-selfs in the religious priming condition, where we expected a negative correlation (Hypothesis 6). With respect to the might impression of the partner, we expected business primes to elicit more might impressions than neutral or religious primes. We also predicted pro-selfs to judge their partner as being mightier than pro-socials do, but in the neutral priming condition only (Hypothesis 7). We expected correlations between the might impression of the partner and expectations of partner's cooperation and between the might

impression of the partner and cooperative behavior to be negative for all participants in the business priming condition and for HCon and LCon pro-selfs in the neutral priming condition (Hypothesis 8)

Method

Participants and design. One hundred forty-eight undergraduates participated in partial fulfillment of course requirements. All were native Dutch speakers. The experimental design included three between-participants factors: SVO (pro-social versus pro-self), consistency (high versus low), stereotype primes (religious versus neutral versus business). Dependent variables were participants' own cooperative behavior in a PDG, expectations of partner's cooperation and moral and might impressions of the partner.

Procedure and materials. Participants were invited to the lab in groups of ten persons. After they entered the laboratory, they were told that they would participate in a sequence of unrelated tasks and were then brought to individual cubicles. They were requested to perform a sequence of tasks: (a) Ring Measure of Social Values (Liebrand, 1984), (b) a filler task, (c) a subliminal priming procedure, (d) a PDG and expectations of partner's cooperation, (e) impression ratings of the partner, and (f) a post-experimental questionnaire.

Measuring Social Value Orientation and consistency. Participants started the experiment by performing the Ring Measure of Social Values (Liebrand, 1984). This computerized task can be used to measure each participant's SVO and its consistency. The Ring Measure confronts participants with 24 choice trials. Each trial exists of two different distributions of amounts of money for the self and for another imaginary person, which can

be either positive or negative. The 24 pairs of outcomes are sampled from a circle in an own/other outcome plane containing outcomes to the self on the horizontal axis and outcomes to the other on a vertical axis. The center of the circle coincides with the origin of the outcome plane, i.e., BEF 0 for the self and BEF 0 for the other person[3]. The radius of the circle is BEF 1500. Each pair consists of two equidistant own/other outcome distributions that were located next to each other on the circle. An example of a pair is the choice between Alternative A: BEF 750 for the self and BEF -1300. for the other and Alternative B: BEF 390 for the self and BEF -1450. for the other. In each of the 24 pairs, participants were instructed to choose that alternative of the pair they most preferred.

Adding up the chosen amounts separately for the self and for the other provides two totals that can be represented as a single point on the horizontal and vertical axis, and provide an estimate of the direction of the participant's SVO vector in the outcome plane. Each orientation reflects a unique pattern of choices. Participants were classified on the Ring Measure as making choices consistent with one of the orientations. Participants with orientation vectors falling between 22.5° and 112.5° were classified as pro-socials and participants with orientation vectors falling between 292.5° (or –67.5°) and 22.5° were classified as pro-selfs. Of the 148 participants, 71 could be identified as pro-socials and 75 could be identified as pro-selfs. Two participants could not be identified because they had an orientation vector of exactly 22.5°. Further, we used the Ring Measure to determine the consistency of each participant's orientation. The average level of consistency in our study was 85.4%. We conducted a median split within the group of pro-socials and pro-selfs. Out of these two groups, 68 participants could be labeled as HCon individuals and 72 could be labeled as LCon individuals. Six additional participants were discarded from the

analysis because they exhibited a consistency score that was less than 60%. A total of 140 participants remained for the analysis. Thirty-four participants were classified as HCon pro-socials, 36 participants as LCon pro-socials, 34 participants as HCon pro-selfs, and 36 participants as LCon pro-selfs. After the Ring Measure, all participants took part in a filler-experiment that lasted for 15 minutes. Participants had to perform several calculation tasks and solve word puzzles.

Priming manipulation. After participants finished the filler task, they were presented with a word-recognition task. Participants sat in front of a computer screen. They were told they would be presented with 30 letter strings appearing one by one on the screen. Half of these letter strings were existing words, the other half were non-existing words. Each trial started with the presentation of a fixation point on the computer screen. Participants had to press the key '2' to start a trial. They had to decide as quickly as possible whether or not a string was an existing word by pressing a key on the keyboard ('1' for an existing word, '3' for a non-existing word).

These 30 words were preceded by subliminal primes. The words used as primes were retained from a pre-test in which students had to indicate which words were most characteristic for a religious or business stereotype. In the religious stereotype priming condition, each letter string was preceded by a word related to religious people (priest, prayer, psalm, incense, father, missionary, religious, monk, brother, forgiveness, reverend, evangel, host, Christian, holy). In the business stereotype priming condition, these words were replaced by words related to business people (manager, salesman, firm, stocks, director, executive, businessman, trader, turnover, business, dynamic, company-car, career, commercial, enterprising). In the neutral priming condition, words that preceded each

letter string were unrelated to both the religious and business stereotype (e.g., light, curved, green). Prime words were presented for 17 ms and masked by a row of X's ("XXXXXXXXXXXX"). The mask remained on the screen for 225 ms and was immediately followed by the target word. In all conditions, 15 different prime words were used and all these words were used twice. Participants were randomly assigned to any of the three priming conditions.

Measuring cooperative behavior in a prisoner's dilemma game and expectations of partner's cooperation. Next, participants were asked to participate in an ostensibly unrelated decision task. The PDG was adopted from prior research (e.g., Van Lange, 1999, Study 3; Van Lange & Kuhlman, 1994). Each participant was told that s/he was paired with another participant in the laboratory. Each participant was given four chips and told that the partner also received four chips. They had to imagine that each chip had a value of BEF 10 to themselves and a value of BEF 20 to the partner. Participants had to decide how many chips (none, one, two, three, or four) they would give to the partner. They were told that the partner also had to decide how many chips s/he would give to the participant. Each chip the participant would receive from the partner would also be worth BEF 20. Maximal cooperation was to give four chips and maximal non-cooperation was to give zero chips[4]. Participants did not receive any information about the partner. To measure expectations of partner's cooperation, we asked each participant the following question: "How many chips do you expect the other will give to you?" One half of the participants received this question before making their own decision. For the other half, the order was reversed[5]. All participants understood the task structure.

Impressions of the partner. Following the behavioral choice, participants were asked to fill out a questionnaire that contained items to measure an impression of the partner. Participants were asked to rate the partner on a series of 8 items, anchored by 'not at all' and 'extremely' on a 5-point scale. These items were four 'morality' items: 'honest', 'fair', 'sincere', and 'equitable'. There were also four 'might' items: 'dominant', 'self-assured', 'determined', and 'intelligent'. The eight items in the impression questionnaire were randomly ordered.

Post-experimental questionnaire. Finally, participants were asked to complete a funneled debriefing form that probed for awareness of the priming manipulation and suspicion about any relatedness among tasks (see funneled debriefing procedure, Bargh & Chartrand, 2000; Chartrand & Bargh, 1996). None of the participants could retrieve any of the primes or indicated any suspicion. Finally, students were thanked for their participation and debriefed.

Results

Cooperative behavior. A 2 (SVO: pro-social vs. pro-self) x 2 (consistency: high vs. low) x 3 (stereotype primes: religious vs. neutral. vs. business) between-participants ANOVA was conducted on the number of chips that participants gave to the partner in the PDG. We found three significant main effects. First of all, we obtained a main effect of SVO, $F(1, 128) = 34.77$, $p < .0001$, which indicated that pro-socials ($M = 1.89$, $SD = 1.31$) cooperated more than pro-selfs ($M = 1.06$, $SD = 1.11$). Second, we obtained a main effect of consistency, $F(1, 128) = 4.23$, $p < .05$, showing that LCon participants ($M = 1.62$, $SD = 1.29$) cooperated more than HCon participants ($M = 1.33$, $SD = 1.30$). Third, we obtained

a main effect of stereotype primes, $F(2, 128) = 62.64$, $p < .0001$. Religious primes (M = 2.35, SD = 1.37) elicited significantly more cooperative behavior than neutral primes (M = 1.65, SD = 1.00), and business primes (M = 0.44, SD = 0.62) elicited significantly less cooperative behavior than neutral primes.

All these main effects were qualified by a significant three-way interaction between SVO, consistency and stereotype primes, $F(2, 128) = 9.11$, $p < .001$. The means of this interaction are presented in Figure 1. Following Smeesters et al. (in press, Experiments 2-4), we tested Hypothesis 1 by analyzing the three-way interaction by breaking down the sum of squares associated with the priming effect into two orthogonal a priori Helmert contrasts. The first contrast (C1) compared the religious priming condition to the neutral and business priming conditions. The second contrast (C2) compared the neutral priming condition to the business priming condition. We then examined whether C1 and C2 varied as a function of the interaction between SVO and consistency. We expected C1 to be moderated by this interaction, but not C2.

C1 came out significant, $F(1, 128) = 76.34$, $p < .0001$. Participants in the religious priming condition (M = 2.35, SD = 1.37) behaved more cooperatively than participants in the neutral/business priming conditions (M = 1.06, SD = 1.03). In line with Hypothesis 1, C1 varied as a function of the interaction between SVO and consistency, $F(1, 128) = 18.21$, $p < .0001$. For HCon pro-socials, LCon pro-socials, and LCon pro-selfs, cooperative behavior was higher in the religious priming condition (M = 2.94, SD = 0.98) than in the neutral/business priming conditions (M = 1.15, SD = 1.07) $t(104) = 8.24$, $p < .0001$. Cooperative behavior among the HCon pro-selfs did not differ significantly between the religious priming condition (M = 0.58, SD = 0.51) and neutral/business priming conditions

(M = 0.73, SD = 0.83), t(32) = -0.54, ns. The C2 contrast was also significant, F(1, 128) = 49.99, p < .0001. Participants in the business priming condition (M = 0.44, SD = 0.62) behaved less cooperatively than participants in the neutral priming condition (M = 1.65, SD = 1.00). As expected, C2 was not moderated by the interaction between SVO and consistency, F(1, 128) < 1, ns.

Insert Figure 1 about here

Expectations of partners' cooperation. A 2 (SVO: pro-social vs. pro-self) x 2 (consistency: high vs. low) x 3 (stereotype primes: religious vs. neutral vs. business) between-participants ANOVA was conducted on expectations of partners' cooperation. This analysis revealed two significant main effects. A main effect of SVO, F(1, 128) = 4.17, p < .001, indicated that pro-socials (M = 2.00, SD = 1.27) expected more cooperation of their partner than pro-selfs (M = 1.71, SD = 1.33). In line with Hypothesis 2, there was also a main effect of stereotype primes, F(2, 128) = 105.31, p < .0001. Religious primes (M = 3.13, SD = 0.81) elicited higher expectations of partners' cooperation than neutral primes (M = 1.78, SD = 1.06) and business primes (M = 0.66, SD = 0.57) elicited lower expectations of partners' cooperation than neutral primes.

These two main effects were qualified by an interaction between SVO and stereotype primes, F(2, 128) = 3.81, p < .05. The means are represented in Figure 2. Planned comparisons clarified this two-way interaction by showing that pro-socials had higher expectations of their partners' cooperation than pro-selfs in the neutral priming condition (M = 2.16, SD = 1.05 vs. M = 1.39, SD = 0.92), F(1, 128) = 10.63, p < .01, but not in the

religious priming condition ($M = 3.05$, $SD = 0.91$ vs. $M = 3.20$, $SD = 0.69$), $F(1, 128) < 1$, ns, or the business priming condition ($M = 0.77$, $SD = 0.61$ vs. $M = 0.54$, $SD = 0.51$), $F(1, 128) < 1$, ns. The difference between pro-socials and pro-selfs was significantly larger in the neutral priming condition than in the religious priming condition, $t(92) = 3.35$, $p < .001$, and the business priming condition, $t(92) = 3.20$, $p < .01$. There was no difference between the religious and the business priming condition, $t(90) < 1$, ns. These results supported Hypothesis 3.

Insert Figure 2 about here

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orrelations between expectations of partners' cooperation and own cooperative behavior. Correlations between expectations and behavior were all statistically significant. There was a negative expectation-behavior correlation for HCon pro-selfs in the religious priming condition, $r = -.65$, $p < .01$. All the other expectation-behavior correlations were positive and ranged between .58 and .95. Hypothesis 4 was supported.

Impressions of the partner. We first performed a principal component analysis (PCA) to see whether the 8 impression items could be reduced to two meaningful groups of items: a moral group and a might group. This PCA revealed two components with an eigenvalue greater than one. The first component had an eigenvalue of 2.50 and accounted for 31.32% of the total variance. After Varimax rotation 4 items (honest, fair, sincere, equitable) loaded highly on this component. These four items referred to a moral impression scale (Cronbach's $\alpha = 0.76$). The second component had an eigenvalue of 2.12 and accounted for 26.55% of the total variance. Four items (dominant, self-assured, determined, intelligent)

loaded highly on this component. These items referred to a might impression scale (Cronbach's $\alpha = .73$).

Moral impression of the partner. We conducted separate 2 (SVO: pro-social vs. pro-self) x 2 (consistency: high vs. low) x 3 (stereotype primes: religious vs. neutral vs. business) between-participants ANOVAs on the moral and the might impression of the partner. The ANOVA on the moral impression of the partner revealed only a main effect of stereotype primes, $F(2, 128) = 24.87$, $p < .0001$. Religious primes ($M = 3.80$, $SD = 0.48$) elicited higher moral ratings than neutral primes ($M = 3.19$, $SD = 0.58$), $F(1, 128) = 29.62$, $p < .0001$, and business primes ($M = 3.06$, $SD = 0.53$), $F(1, 128) = 43.86$, $p < .0001$. There was no difference between neutral primes and business primes, $F(1,128) = 1.51$, ns. We also calculated a planned comparison between pro-socials and pro-selfs at the neutral priming level. This indicated that pro-socials ($M = 3.36$, $SD = 0.62$) judged their partner as being more moral than pro-selfs ($M = 3.05$, $SD = 0.50$), $F(1, 128) = 4.76$, $p < .05$, whereas this difference was not significant at the religious and business priming levels ($Fs < 1$). These results confirmed Hypothesis 5. To examine Hypothesis 6, we calculated a series of additional correlations.

Correlations between moral impression of the partner and expectations of partner's cooperation. Correlations were significant at the religious priming level for all participants and at the neutral priming level for HCon and LCon pro-socials. Significant correlations were all positive and ranged between .60 and .78.

Correlations between moral impression of the partner and cooperative behavior.

Correlations were also significant at the religious priming level for all participants and at the neutral priming level for HCon and LCon pro-socials. The correlation between

cooperative behavior and moral impression of the partner was negative for HCon pro-selfs in the religious priming condition, $r = -.60$, $p < .05$. All other significant correlations were positive and ranged between .60 and .66.

Might impression of the partner. The ANOVA on the might impression of the partner revealed a main effect of stereotype primes, $F(2, 128) = 11.83$, $p < .0001$. Business primes ($M = 3.73$, $SD = 0.53$) elicited higher might ratings of the partner than religious primes ($M = 3.31$, $SD = 0.48$), $F(1,128) = 16.16$, $p < .001$, and neutral primes ($M = 3.27$, $SD = 0.49$), $F(1, 128) = 19.25$, $p < .0001$. There was no difference between religious primes and neutral primes, $F(1, 128) < 1$, ns. We also calculated a planned comparison between pro-socials and pro-selfs at the neutral priming level. This indicated that pro-selfs ($M = 3.43$, $SD = 0.47$) gave higher might ratings of the partner than pro-socials ($M = 3.11$, $SD = 0.45$), $F(1, 128) = 4.62$, $p < .05$. This difference was not significant at the religious and business priming level ($Fs < 1$). These results were in line with Hypothesis 7. To examine Hypothesis 8 we calculated several additional correlations.

Correlations between might impression of the partner and expectations of partner's cooperation. Correlations were significant at the business priming level for all participants and at the neutral priming level for HCon and LCon pro-selfs. These significant correlations were all negative and ranged between -.61 and -.81.

Correlations between might impression of the partner and cooperative behavior. Correlations were also significant at the business priming level for all participants and at the neutral priming level for HCon and LCon pro-selfs. Significant correlations were all negative and ranged between -.54 and -.83.

Discussion

The results of Experiment 1 clearly replicated those of Smeesters et al. (in press). SVO and primes jointly influenced participants' expectations of partner's cooperation. Expectations of partner's cooperation assimilated to the primes for all participants. Cooperative behavior assimilated to these expectations in all conditions, except for HCon pro-selfs in the religious priming condition. Thus, although expectations held by HCon pro-selfs assimilated to religious primes, their behavior contrasted with these primes. The correlations corroborated this contrasting result by showing a negative correlation between expectations and behavior in this condition, whereas a positive correlation was found in all the other conditions.

Our results also extended those of Smeesters et al. (in press) in several interesting ways. First of all, we obtained the same results on cooperative behavior and expectations of partner's cooperation with stereotype primes. Second and more important, we also measured partner impressions. We found that SVO only influenced impressions in the neutral priming condition: pro-socials judged the partner as more moral than pro-selfs, who themselves judged the partner as mightier than pro-socials. This is in line with the idea that morality is a chronically accessible construct for pro-socials and might for pro-selfs. This pattern is also observed in the correlations. Correlations calculated in the neutral priming condition between impression ratings on the one hand, and cooperative behavior or expectations of partner's cooperation on the other, were only significant for those impression items that reflected a chronically accessible construct for either pro-socials (i.e., the moral scale) or pro-selfs (i.e., the might scale).

Further, priming had a clearly but asymmetric an influence on impressions. There was no difference between the neutral primes and, respectively, business primes on the moral scale or religious primes on the might scale. This means, for instance, that someone confronted with religious primes perceives his/her partner as being more moral but not as being less mighty. Similarly, someone confronted with business primes perceives his/her partner as being mightier but not as being less moral. This was also reflected in the correlations: correlations were not significant at the business priming level for the moral scale and at the religious priming level for the might scale. To conclude, these impression correlations demonstrate that expectations of partner's cooperation are derived from a moral impression in the religious priming condition, a might impression in the business priming condition and participants' chronic constructs in the neutral priming condition.

The results of Experiment 1 together with Smeesters et al. (in press) indicate that in an interdependence situation rumination about the character and the likely strategy of the partner is of high importance. Indeed, people's expectations of partner's cooperation and impressions of the interaction partner became unobtrusively influenced by primes. Subsequently, these expectations and impressions were used to determine own cooperative decision-making (and not vice versa). This is supported by the HCon pro-selfs' behavior. If they would use their own behavior as an antecedent of forming expectations and impressions, one would expect that their non-cooperative behavior in the religious priming condition would lead to low expectations of partner's cooperation and a less moral, or perhaps a mightier, partner impression. However, the opposite happened. That is, they had high expectations of partner's cooperation and a strong moral partner impression.

The findings obtained in this experiment suggest that, in settings characterized by a high interdependence, participants tend to focus on characteristics of the interaction partner in order to make cooperative choices (see also Herr, 1986; Neuberg, 1988). We believe however that this pattern may not emerge in a situation in which an interdependent context is absent. To begin looking for such a context, experiment 2 relied on an implicit procedure to test the notion that individuals in an interdependent context (i.e., a PDG) display a higher other-focus than individuals in a unilateral dependence context (i.e., a DG).

Experiment 2

In this experiment participants played either a PDG or a DG and we measured the effects of being in one of these contexts on other-focus. Experiment 1 clearly showed that individuals engage in rumination about partner beliefs and therefore it could be expected that individuals in an interdependent context have a high level of other-focus. On the other hand, individuals participating in a DG may have a lower level of other-focus. In a DG, characterized by unilateral dependence, rumination about partner beliefs may be of a lesser importance than in a PDG. As a consequence, engaging in a DG may not lead to enhanced other-focus.

In addition, we wanted to examine whether this other-focus is related to self-focus. The notion of self-focus has received considerable attention in the literature. Increased self-focus (i.e., increased attention to the self) makes relevant goals more salient and more accessible and is related with an increasing instigation of self-regulation to bring one's functioning in line with one's goals or values (Carver & Scheier, 1981; Duval & Wicklund,

1972; Gibbons, 1990; Higgins, 1996b). Under such conditions, priming effects often disappear (Dijksterhuis & Van Knippenberg, 2000). In many circumstances, with moderate levels of self-focus, human functioning is determined by the most dominant cue. In conditions with lowered self-focus, self-regulation fails to exert its influence and situational cues, such as primes, may take over human functioning (Carver & Scheier, 1981). The fact that in the PDG used in Experiment 1, the effects of self-related concepts such as SVO on rumination about partner beliefs were easily overridden by the primes could be the result of a decreased self-focus. Therefore, it could be that in a PDG enhanced other-focus is related with decreased self-focus.

Participants were invited to play either a PDG or a DG. After we informed them about the rules of the game, we used a modified version of a laboratory task developed by Davis & Brock (1978) that could implicitly measure levels of other- and self-focus. Participants had to guess translations for personal pronouns in a foreign and unknown language. Other-focus was determined by calculating the amount of second and third person pronouns used in the translations. Self-focus was determined by the amount of first person pronouns used. We also included a control condition in which participants were directly exposed to the translation task.

The procedures for the different games were adapted from previous studies on DGs (cf. Bohnet & Frey, 1999) and PDGs (see Experiment 1) and differed with respect to the role of the interaction partner. Nevertheless, we tried to keep the game procedures as constant as possible. Apart from the role of the interaction partner, both games differed mainly from each other with respect to the number of chips that could be given to the partner (i.e., maximum 4 chips with a value of BEF 10 to the self and BEF 20 to the other

in the PDG and maximum 8 chips with of value of BEF 5 to all in the DG). We took care that there were equal references to the partner and the self in both games. Therefore, differences in other- and self-focus between the different games could only be attributed to differences in the character of the specific game.

We hypothesized that compared to a control condition, engaging in a PDG would lead to enhanced other-focus and lowered self-focus, indicated by respectively a higher use of second- and third person pronouns and a lower use of first-person pronouns. With respect to the DG, we had no reasons to expect differences in other- and self-focus between this game and the control condition. We also expected a negative correlation between other- and self-focus in the PDG.

Method

Participants and design. Ninety-two Dutch-speaking undergraduates participated in partial fulfillment of course requirements. The design of Experiment 2 was a single factor design (game type: PDG vs. DG vs. control condition).

Procedure. Participants were invited to the lab in groups of ten. On arrival in the laboratory, participants were placed in individual cubicles and were told that they would participate in several studies[6]. Participants were randomly assigned to one of the three experimental conditions. Participants in the control condition performed the task that measured the dependent variables (i.e., other- and self-focus). Participants in the two game conditions were first explained the rules of the game they were participating in. They also had to make a behavioral choice in their game. The dependent measure was counterbalanced with the behavioral choice: one half of the participants performed the

other- and self-focus task before making a choice, the other half had to perform this task after making a choice[7].

Instructions for the prisoner's dilemma game. Participants received the same instructions as in Experiment 1, except for the question on expectations of partner's cooperation. All participants understood the task structure and, therefore, no additional data were excluded.

Instructions for the dictator game. Each participant was told that s/he was paired with another participant in the laboratory. Each participant was given eight chips and had to imagine that each chip was worth BEF 5. It was told that the other person had not received anything. The participant (i.e., the dictator) could unilaterally decide about the allocation of the chips. The DG tested to which extent participants were willing to pass chips to the partner (i.e., the recipient). Participants could either keep all of the chips for themselves, or allocate any proportion to the partner. Participants did not receive any information about the partner. All participants understood the game task and, therefore, no additional data were excluded.

Dependent measures. Each participant had to complete a 'foreign language test' that was constructed to measure other- and self-focus. Participants were told that earlier research had shown that while reading a foreign language, people were sometimes able to guess the correct translation of pronouns. We told participants that they would be presented with a short story in a foreign language with an unfamiliar character set (i.e., Cyrillic Russian) in which 50 pronouns were underlined. We did not inform participants which language the story was presented in. Participants were asked to guess the correct translation of each of the 50 pronouns. Our main interest was the number of second- and

third-person pronouns (you, he, she, him, her, his) as a measure of other-focus and the number of first-person pronouns (I, me, my, myself, mine, I myself) as a measure of self-focus. Finally, we probed whether they had any suspicion about the experimental procedures. None of the participants suspected any relatedness between their game and the other- and self-focus task. Participants were then thanked and debriefed.

Results and discussion

An analysis of variance with game type as an independent variable revealed an effect on the other-focus measure, $F(2, 89) = 15.47$, $p < .0001$. Participants in a PDG context ($M = 16.87$, $SD = 3.56$) listed more second- and third-person pronouns than participants in a DG context ($M = 12.35$, $SD = 3.93$), $F(1, 89) = 26.33$, $p < .0001$, or participants in the control condition ($M = 12.96$, $SD = 2.87$), $F(1, 89) = 19.03$, $p < .001$. There was no difference between participants playing a DG and control participants ($F < 1$). Next, an analysis of game type revealed also a significant effect on the self-focus measure, $F(2, 89) = 10.46$, $p < .0001$. Participants in a PDG context ($M = 10.94$, $SD = 2.80$) listed fewer first-person pronouns than participants in a DG context ($M = 13.45$, $SD = 3.34$), $F(1, 89) = 11.47$, $p < .0001$, or participants in the control condition ($M = 14.20$, $SD = 2.64$), $F(1, 89) = 18.74$, $p < .0001$. There was no difference between participants playing a DG and control participants, ($F < 1$). We also calculated correlations between other- and self-focus for each level of game type. These correlations were significant in the PDG ($r = -.43$) but not in the DG ($r = .15$) and the control condition ($r = .07$).

Playing a PDG leads to higher other-focus and lower self-focus than playing a DG. The higher spontaneous other-focus indicates that individuals in a PDG are very much interested in the characteristics and functioning of the partner and, consequently, may

readily engage in rumination about partner beliefs. Higher other-focus also tends to go along with lower self-focus, which may inhibit the effects of SVO on the rumination process.

The DG gave rise to moderate levels of other- and self-focus. Neither differed from the control condition. Under such conditions, individuals may be not particularly focused on the characteristics and functioning of the partner and, consequently, not strongly engage in rumination about partner beliefs. The moderate level of self-focus then suggests that cooperative behavior in a DG may be directly influenced by the most dominant cue (Carver & Scheier, 1981).

Experiment 3

In our view, the DG situation may in fact be quite close to what took place in Hertel & Fiedler's (1998) study. Indeed, the interdependence character is likely to be weak in both cases. In Hertel & Fiedler's (1998) study, participants presumably made cooperative decisions without having formed an impression of their partner. In a DG, a game eliciting moderate levels of other-focus, people tend not to ruminate about partner's character during the task (see Roth, 1995). Therefore, the results of Hertel & Fiedler (1998) (i.e., HCon individuals are less susceptible to priming effects) may be obtained if participants are confronted with a DG rather than a PDG. The moderate level of self-focus may then suggest that cooperative behavior in a DG will be influenced by the most dominant cue. Following Hertel & Fiedler (1998), SVO should be the most dominant cue for HCon individuals and primes should be the most dominant cue for LCon individuals.

With respect to cooperative behavior, we predicted a significant interaction between consistency and stereotype primes. Primes were only expected to influence cooperative behavior of LCon individuals but not of HCon individuals (Hypothesis 1). Further, we also predicted effects of SVO, though of a different nature for HCon and LCon individuals. For HCon individuals, we predicted an effect of SVO regardless of the nature of the primes (Hypothesis 2). For LCon individuals, SVO was only expected to influence cooperative behavior when primes were neutral (Hypothesis 3).

Because impressions were not expected to play a major role and because other-focus tended to be low in a DG, we did not expect our participants to engage in rumination about the character of their partner. Therefore, we did not expect primes to influence partner impressions. Nevertheless, we expected SVO to have an influence on partner impressions. This is rather a consequence of how individuals with different SVO perceive the world, which may occur independent of whether impression formation is a predominant cognitive process or not. Because morality is a chronically accessible construct for pro-socials and might is for pro-selfs, we expected pro-socials to perceive their partner as being more moral than pro-selfs do (Hypothesis 4) and pro-selfs to perceive their partner as being mightier than pro-socials do (Hypothesis 5).

Finally, because we did not expect impressions to play an important role as an antecedent of cooperative decision-making and cooperative behavior is rather the result of the direct influence of SVO (HCon individuals) or primes (LCon individuals), we did not expect a systematic relationship between cooperative behavior and impressions (Hypothesis 6).

Method

Participants and design. Participants were 169 Dutch-speaking undergraduates who participated for partial fulfillment of course requirements. The experimental design included three between-participants factors: SVO (pro-social versus pro-self), consistency (high versus low), and stereotype primes (religious versus neutral versus business). Dependent variables were participants' cooperative behavior in a DG, and moral and might impressions of the partner.

Procedure and materials. After participants entered the laboratory, they were told that they would participate in a sequence of tasks and were then brought to individual cubicles. They were requested to perform a sequence of tasks: (a) Ring Measure of Social Values (Liebrand, 1984), (b) a filler task, (c) a subliminal priming procedure, (d) a DG, (e) impression ratings of the partner, and (f) a post-experimental questionnaire.

Measuring social value orientation and consistency. Participants were invited to the lab in groups of ten persons. The procedure of this experiment was very similar to Experiment 1, except for the instructions of the experimental game participants had to perform. As in Experiment 1, participants first completed the Ring Measure of Social Values (Liebrand, 1984). Participants were classified according the same criteria as in Experiment 1. Of the 169 participants, 85 could be identified as pro-socials and 81 could be identified as pro-selfs. Three participants could not be identified because they had an orientation vector of 22.5°. The average level of consistency was 89.4%. Of the remaining 166 participants, 80 could be labeled as HCon individuals and 80 could be labeled as LCon individuals. Six additional participants were discarded from the analysis because they exhibited a consistency score that was lower than 60%. This means that a total of 160

participants remained for the analysis. Thirty-nine participants were classified as HCon pro-socials, 42 participants as LCon pro-socials, 41 participants as HCon pro-selfs, and 38 participants as LCon pro-selfs.

Priming manipulation. After all participants took part in a filler-task, participants were randomly assigned to one of the three subliminal priming conditions (see Experiment 1).

Measuring cooperative behavior in a dictator game. Immediately after completing the priming task, participants took part in the same DG as in Experiment 2. All participants understood the task and, therefore, no additional data were excluded.

Impression ratings of the partner and post-experimental questionnaire. Following the behavioral choice, participants were asked to fill out the same impression questionnaire as in Experiment 1. Finally, before being thanked and debriefed, participants had to perform the same funneled debriefing form as in Experiment 1. None of the participants indicated any suspicion on the priming procedure or on any relatedness among the different tasks of the experiment.

Results

Cooperative behavior. We conducted a 2 (SVO: pro-social vs. pro-self) x 2 (consistency: high vs. low) x 3 (stereotype primes: religious vs. neutral vs. business) between-participants ANOVA on the number of chips that participants allocated to the partner in the DG. This analysis revealed the presence of two significant main effects. A main effect of SVO, $F(1, 148) = 37.53$, $p < .001$, indicated that pro-socials ($M = 3.55$, $SD = 1.14$) allocated more chips than pro-selfs ($M = 2.51$, $SD = 1.19$). A main effect of

stereotype primes, $F(2, 148) = 9.69$, $p < .001$, revealed that religious primes ($M = 3.52$, $SD = 1.15$) elicited significantly more cooperative behavior than neutral primes ($M = 2.95$, $SD = 1.27$), whereas business primes ($M = 2.62$, $SD = 1.23$) elicited significantly less cooperative behavior than neutral primes.

We obtained two significant two-way interactions. The two-way interaction between SVO and consistency, $F(1, 148) = 5.57$, $p < .05$, showed that the difference in cooperative behavior between HCon pro-socials and HCon pro-selfs [$M = 3.73$, $SD = 1.12$ vs. $M = 2.29$, $SD = 1.27$, $F(1, 148) = 36.06$, $p < .0001$] was larger than between LCon pro-socials and LCon pro-selfs [$M = 3.36$, $SD = 1.14$ vs. $M = 2.72$, $SD = 1.06$, $F(1, 148) = 7.08$, $p < .01$], $t(158) = 3.98$, $p < .0001$. In line with Hypothesis 1, we obtained a significant two-way interaction between consistency and primes, $F(2, 148) = 5.20$, $p < .01$. The means of this interaction are shown in Figure 3. This interaction showed that priming did not influence HCon individuals, $F(2, 148) < 1$, ns, whereas it had a major impact on LCon individuals, $F(2, 148) = 14.73$, $p < .0001$. For the latter individuals, religious primes ($M = 3.87$, $SD = 0.87$) elicited more cooperative behavior than neutral primes ($M = 2.94$, $SD = 1.11$), $F(1, 148) = 10.01$, $p < .0001$, and business primes ($M = 2.31$, $SD = 0.83$) elicited less cooperative behavior than neutral primes, $F(1, 148) = 4.46$, $p < .05$.

Insert Figure 3 about here

Furthermore, for HCon individuals the effect of SVO on cooperative behavior appeared to be significant for each type of prime. HCon pro-socials cooperated more than HCon pro-selfs with religious priming ($M = 3.93$, $SD = 1.07$ vs. $M = 2.38$, $SD = 1.04$), $F(1,$

148) = 13.96, $p < .0001$, neutral priming ($M = 3.58$, $SD = 1.24$ vs. $M = 2.33$, $SD = 1.34$), $F(1, 148) = 9.05$, $p < .01$, and business priming ($M = 3.69$, $SD = 1.11$ vs. $M = 2.15$, $SD = 1.46$), $F(1, 148) = 13.37$, $p < .001$. This result confirmed Hypothesis 2.

For LCon individuals, the effects of SVO appeared to be significant after neutral priming only, which confirmed Hypothesis 3. LCon pro-socials cooperated more than LCon pro-selfs with neutral priming ($M = 3.42$, $SD = 0.99$ vs. $M = 2.46$, $SD = 1.05$), $F(1, 148) = 4.95$, $p < .05$, but not with religious priming ($M = 4.13$, $SD = 0.92$ and $M = 3.62$, $SD = 0.77$), $F(1, 148) = 1.62$, ns, and business priming ($M = 2.53$, $SD = 0.91$ and $M = 2.08$, $SD = 0.67$), $F(1, 148) = 1.17$, ns. The difference between LCon pro-socials and LCon pro-selfs was marginally significantly larger with neutral priming than with religious priming, $t(51) = 1.61$, $p < .06$, and significantly larger than with business priming, $t(50) = 1.81$, $p < .05$. Differences in means between LCon pro-socials and LCon pro-selfs did not differ between the religious and the business priming conditions, $t(53) < 1$, ns.

Impressions of the partner. As in Experiment 1, we first performed a principal component analysis (PCA) to see whether the 8 impression items indeed could be reduced to a moral scale and a might scale. This PCA revealed two components with an eigenvalue greater than one. The first component had an eigenvalue of 3.01 and accounted for 37.75% of the total variance. After Varimax rotation 4 items (honest, fair, sincere, equitable) loaded highly on this component. These four items referred to a moral impression scale (Cronbach's $\alpha = 0.76$). The second component had an eigenvalue of 1.32 and accounted for 16.55% of the total variance. Three items (dominant, self-assured, intelligent) loaded highly on this component. The item 'determined' did not load highly on this component. Therefore, a might impression scale was created without incorporating this item

(Cronbach's $\alpha = 0.72$).

To test Hypothesis 4 and 5, we conducted separate 2 (SVO: pro-social vs. pro-self) x 2 (consistency: high vs. low) x 3 (stereotype primes: religious vs. neutral vs. business) between-subjects ANOVAs on the moral and might impression ratings of the partner. An analysis on the moral impression scale revealed a main effect of SVO, $F(1, 148) = 10.91$, $p < .01$. Pro-socials ($M = 3.46$, $SD = 0.67$) judged the partner as more moral than pro-selfs ($M = 3.14$, $SD = 0.59$). This result confirmed Hypothesis 4. The ANOVA on the might impression confirmed Hypothesis 5, although the main effect of SVO was only marginally significant, $F(1, 148) = 3.16$, $p = .07$. Pro-selfs ($M = 3.28$, $SD = 0.63$) judged the partner as mightier than pro-socials ($M = 3.12$, $SD = 0.57$).

Correlations between impression ratings and cooperative behavior. In line with Hypothesis 6, it appeared that none of the correlations between either a moral judgment and cooperative behavior or a might judgment and cooperative behavior were significant.

Discussion

The results of Experiment 3 were quite similar to the findings of Hertel & Fiedler (1998): priming only influenced cooperative behavior of LCon individuals and not of HCon individuals. In addition, our results also showed the influence of SVO on cooperative behavior in a DG: SVO determined cooperative behavior of HCon individuals in all priming conditions whereas it only determined cooperative behavior of LCon individuals in the neutral priming condition.

Partner impressions were not affected by priming. They were only affected by SVO, even for LCon individuals: only the behavioral effects of SVO were weakened by the

religious or business primes. The effects of SVO on partner impressions were not, which suggests that impression formation is not a predominant process in the context of DG. Consequently, priming could not have had much of an influence. Hence, there was no competing cue available to disrupt the influence of low consistent orientations on the impression ratings. These impressions may then convey the way individuals taking part in a DG perceive their social world.

The correlations showed that cooperative behavior and partner impressions were not related to each other. Thus, cooperative responses towards the other were not elicited by moral or might impressions of the other. This strengthens the interpretation that cooperative behavior in a DG is rather the result of direct influences of SVO or primes.

Experiments 4 and 5

The previous experiments taught us that a) the impact of SVO, consistency, and stereotypes primes on cooperative behavior yielded different data patterns for a PDG and a DG, and b) a PDG game had different levels of other- and self-focus than a DG. One could however argue that these different findings for the PDG and the DG are not directly comparable to each other. First of all, different numbers of chips with different values were used. In the PDG, participants had to imagine that four chips were each worth BEF 10 to the self and BEF 20 to the other. In the DG, participants had to imagine that eight chips were each worth BEF 5 to both the self and the other. These different amounts might have elicited different perceptions on how to deal with these chips. Second, although we tried to keep the instructions for both types of games as constant as possible, sometimes different instructions had to be used because of the different procedures for the games.

This could also have had a strong effect on the degree of other- and self-focus. In order to eliminate any possible confounds we decided to conduct another study in which the conditions of both the PDG and the DG were matched as closely as possible.

We wanted to directly compare a social interaction with moderate levels of other- and self-focus with a social interaction with a high level of other-focus and a low level self-focus. For the first social interaction, we used the DG that was used in Experiment 3. We only adapted the amount of money involved in the game. For the latter social interaction, we used a modified version of a DG (called dictator-other game, DG-other). Participants in this condition had to play a classic DG and were told that they were linked to another person, to whom they had to make an allocation decision (i.e., the recipient), and that this other person had to play the same game in the role of a dictator and with the participant as a recipient. Unlike in Hertel & Fiedler (1998), participants were immediately linked with a partner. We assumed that pointing participants to a person making allocations to them would enhance attention to his/her characteristics. Presumably, in such an enhanced interdependence situation, individuals will also engage in rumination about partner beliefs. In addition, we told participants that the other person would only learn about what s/he would receive from the participant after making his/her own choice. This was done in order to minimize the likelihood of strategic choices. Remember that in the PDG (Experiment 1) choices were made simultaneously and under such conditions participants knew that the other person would be ignorant of their choices. Further, to completely prevent that other- and self-focus differences could be attributed to these extra instructions to participants in the DG-other condition, participants in the DG condition received almost the same instructions. Here we simply stated that the other person was not going to play

the same game as a dictator and s/he would not be informed about the participant's decision before the end of the session. By doing this, rumination about partner's personality was not instigated and the number of references to the self and to the other was set equal.

We conducted two experiments to test the viability and validity of this paradigm. In Experiment 4, we examined the effects of both types of games (the DG and the DG-other) on other- and self-focus. We predicted that the DG-other would have the same characteristics as a PDG (i.e., a higher other-focus and a lower self-focus). In Experiment 5, we used our new paradigm to examine whether the data pattern of cooperative behavior obtained in Experiments 1 and 3 could be replicated. We did this by using only HCon individuals. We decided to not use LCon individuals because they basically showed the same data pattern of cooperative behavior in the PDG and in the DG, although their behavior may have been differentially triggered in these different games. In the PDG, cooperative behavior of LCon individuals was rather determined by default norms associated with partner impressions and expectations of partner's cooperative behavior, which were affected by stereotype primes (Smeesters et al., 2002). In the DG, cooperative behavior of LCon individuals was directly influenced by stereotype primes. For Experiment 5, we predicted the same effects for the DG condition as in Experiment 3 and for the DG-other condition as in Experiment 1.

Experiment 4

This experiment was conducted to examine whether participants playing a DG-other had a higher other-focus and a lower self-focus than participants playing a DG. We followed the same procedure as in Experiment 2, and also included a control condition.

Method

Participants and design. Forty-seven Dutch-speaking undergraduates participated for partial fulfillment of course requirements. The design of Experiment 4 was a single-factor design (game type: DG vs. DG-other vs. control condition).

Procedure. We followed almost the same procedure as in Experiment 2. Participants were invited to the lab in groups of eight persons. After participants were placed in individual cubicles and told that they would participate in several studies[8], they were then randomly assigned to one of the three experimental conditions. Participants in the control conditions just had to perform the dependent measure. Participants in the two experimental conditions were first explained the rules of the game they were participating in.

Participants in the DG condition received the same instructions as in Experiment 2. In this experiment, however, participants received 10 coins of € 0.20, which they had to allocate between themselves and another person. Further instructions stated that the other person did not have to play the same game in the role of a dictator and that s/he would not be informed about the allocation decision of the participant before the end of the experiment. Participants in the DG-other condition received the same instructions but were also told that the other person had to play the same game, then with reversed roles (i.e., the recipient becomes a dictator and the dictator becomes a recipient). In addition, participants were also told that the other person would not be informed about the allocation decision of the participant before making a choice himself/herself.

After these instructions and counterbalanced with the own choice[9], participants had to complete the same dependent measure as in Experiment 2. Participants were then debriefed, told that the game was fictitious, informed that there was no other person who

had to make a choice, and thanked. Participants were allowed to keep the coins that they did not allocate to the other for themselves.

Results and discussion.

The data were analyzed using an ANOVA with game type as a single-factor and which was conducted on both the other-focus and the self-focus measure. The analyses on the other-focus measure revealed that game type had an effect, $F(2, 44) = 5.67$, $p < .01$. Participants in the dictator-other dilemma condition game used more second- and third-person pronouns ($M = 17.12$, $SD = 4.01$) than participants in the DG condition ($M = 13.13$, $SD = 3.78$), $F(1, 44) = 8.74$, $p < .01$, and the control condition ($M = 13.33$, $SD = 3.58$), $F(1, 44) = 7.88$, $p < .01$. No difference appeared between the latter two conditions ($F < 1$). The ANOVA had also an effect on the self-focus measure, $F(2, 44) = 3.94$, $p < .05$. Participants in the DG-other condition ($M = 11.06$, $SD = 2.70$) used fewer first-person pronouns than participants in the DG condition ($M = 14.21$, $SD = 3.76$), $F(1, 44) = 6.39$, $p < .05$, and the control condition, ($M = 13.87$, $SD = 4.02$), $F(1, 44) = 5.11$, $p < .05$. There was no difference between the latter two conditions ($F < 1$). We also calculated correlations between other- and self-focus for each level of game type and found a significant correlation in the DG-other condition ($r = -.51$) but not in the DG condition ($r = -.08$) and the control condition ($r = .11$).

Clearly, the data in the DG-other condition in Experiment 4 matched those of the PDG condition in Experiment 2. It had higher levels of other-focus and lower levels of self-focus than engaging in a DG condition, which did not differ from the control condition. Therefore, we assumed the use of the two versions of the dictator game is suitable for replicating the patterns of cooperative behavior obtained in Experiments 1 and

3.

Experiment 5

Experiments 1 and 3 showed different patterns of cooperative behavior for HCon individuals. These results were, however, obtained with different procedures. We decided to develop a more sophisticated paradigm for replicating these results. If we succeed in replicating these results, we can be confident that the results obtained in Experiments 1 and 3 were not the result of different procedures. We decided to test this conjecture only for HCon individuals, as only the data patterns of cooperative behavior for HCon individuals were different in Experiments 1 and 3. Participants were classified after performing the Ring Measure of Social Values as HCon and LCon individuals. HCon individuals took part in Experiment 5 and LCon individuals took part in Experiment 6 (see below).

In the DG, we only predicted a main effect of SVO: HCon pro-socials were expected to behave more cooperatively than HCon pro-selfs (Hypothesis 1). In the DG-other, we predicted religious primes to elicit more cooperative behavior than neutral or business primes among HCon pro-socials but not among HCon pro-selfs (Hypothesis 2).

Method.

Participants and design. A group of 288 undergraduates participated in this experiment or Experiment 6. They took part for partial fulfillment of course requirements. All were native Dutch speakers. The experimental design of Experiment 5 included three between-participants factors. These factors were SVO (pro-social versus pro-self),

stereotype primes (religious versus neutral versus business), and game type (DG vs. DG-other). The dependent variable was cooperative behavior.

Procedure. Participants were invited in the lab in groups of 8 persons and told that they had to perform a sequence of tasks. The sequence in this experiment was a) the Ring Measure of Social Values followed by b) a filler task, c) a subliminal priming procedure, d) an experimental game, and e) a post-experimental questionnaire.

As in previous experiments, participants first completed the Ring Measure of Social Values (Liebrand, 1984). Participants were however not classified according the same criteria for consistency as in Experiment 1 and 3, in which a median split was used after categorizing participants as either pro-socials or pro-selfs. Instead we used the criteria of Smeesters et al. (in press) who classified participants with a consistency score of at least 90% as HCon individuals and participants with a consistency score of at most 85% as LCon individuals. They omitted the participants scoring in between. Their classification was matched by a median split. We used these criteria because we were then able to immediately classify participants to either let them participate in Experiment 5 or 6. The Ring Measure data of all participants were written to a disk to which only the experimenter had access. The experimenter scanned these data while participants were performing a filler task that took about 15 minutes. Participants then received different instructions depending on their consistency score.

Of the 288 participants, 141 who scored at least 90% were classified as HCon individuals and 135 who scored 85% or less were classified as LCon individuals[10]. Twelve participants, who scored below 60% (7 participants) or between 85% and 90% (5 participants), were excluded from further analysis. The average level of consistency was

88.1%. Of the 141 HCon individuals, 73 could be labeled as pro-socials and 65 as pro-selfs. Three participants could not be classified because they had an orientation vector of 22.5°.

Priming manipulation. After a filler-experiment, participants were randomly assigned to one of three subliminal priming conditions (see Experiments 1 and 3).

Game manipulation and measuring cooperative behavior. Next, participants were randomly assigned to either the DG condition or the DG-other condition (see Experiment 4). All participants understood the game and, therefore, no additional data were excluded. Finally, before being thanked and debriefed, all participants were requested to follow a funneled debriefing procedure. None of the participants indicated any suspicion on the priming procedure or on any relatedness among the different tasks of the experiment.

Results and discussion

The amount of coins that participants allocated to the other was analyzed in a 2 (SVO: pro-social vs. pro-self) x 3 (stereotype primes: religious vs. neutral vs. business) x 2 (game type: DG vs. DG-other) between-participants ANOVA. This analysis revealed a main effect of SVO, $F(1, 126) = 34.65$, $p < .0001$. Pro-socials ($M = 3.69$, $SD = 1.36$) allocated more coins to the other than pro-selfs ($M = 2.42$, $SD = 1.26$). Further, we obtained a significant three-way interaction between SVO, stereotype primes, and game type, $F(2, 126) = 3.29$, $p < .05$. The means pertaining to this interaction are presented in Figure 4. To test our hypotheses, we conducted two separate 2 (SVO: pro-social vs. pro-self) x 3 (stereotype primes: religious vs. neutral vs. business) between-participants ANOVAs for participants in the DG condition and the DG-other condition.

Insert Figure 4 about here

In line with Hypothesis 1, the ANOVA for participants in the DG condition only revealed a main effect of SVO, $F(1, 59) = 12.68$, $p < .001$. HCon pro-socials ($M = 3.82$, $SD = 1.40$) allocated more coins to the other than HCon pro-selfs ($M = 2.56$, $SD = 1.37$).

The ANOVA for participants in the DG-other condition revealed main effects of SVO, $F(1, 67) = 24.41$, $p < .0001$, and stereotype primes, $F(2, 67) = 4.38$, $p < .05$. HCon pro-socials ($M = 3.57$, $SD = 1.32$) behaved more cooperatively than HCon pro-selfs ($M = 2.28$, $SD = 1.16$). Business primes ($M = 2.38$, $SD = 1.21$) elicited less allocations to the partner than religious ($M = 3.19$, $SD = 1.66$) or neutral primes ($M = 3.21$, $SD = 1.14$). These main effects were however qualified by a significant two-way interaction between SVO and stereotype primes, $F(2, 67) = 6.10$, $p < .01$. To analyze this interaction, we broke down the sum of squares associated with the priming effect into two orthogonal a priori Helmert contrasts. The first contrast (C1) compared the religious priming condition to the neutral and business priming conditions. The second contrast (C2) compared the neutral priming condition to the business priming condition. We then examined whether C1 and C2 interacted with SVO. We expected the interaction between C1 and SVO to be significant, unlike the interaction between C2 and SVO.

The C1 contrast, $F(1, 67) = 2.08$, ns was not significant. In line with our predictions C1 interacted with SVO, $F(1, 67) = 11.60$, $p < .01$. For HCon pro-socials, cooperative behavior was higher in the religious priming condition ($M = 4.46$, $SD = 0.97$) than in the neutral/business priming conditions ($M = 3.13$, $SD = 1.26$) $t(35) = 3.32$, $p < .01$. Cooperative behavior among the HCon pro-selfs did not differ significantly between the

religious priming condition (M = 1.92, SD = 1.16) and the neutral/business priming conditions (M = 2.46, SD = 1.14), t(34) = -1.33, ns. The C2 contrast was significant, F(1,67) = 6.67, p < .05. Business primes (M = 2.38, SD = 1.21) elicited less cooperative behavior than neutral primes (M = 3.21, SD = 1.14). As expected, C2 did not interact with SVO, F(1, 67) < 1, ns. These results confirmed Hypothesis 2.

The results of Experiment 5 were perfectly in line with our predictions. We obtained only a main effect of SVO in the DG condition. In the DG-other condition we observed that HCon pro-selfs showed non-cooperative behavior in the religious priming condition whereas in the same condition HCon pro-socials behaved cooperatively. All HCon individuals behaved less cooperatively in the business priming condition compared to the neutral priming condition.

In a condition with moderate levels of other and self-focus, SVO was the most dominant cue to determine cooperative behavior for HCon individuals. In a condition with a high level of other-focus and a low level of self-focus another pattern of cooperative behavior emerged. This pattern matched the pattern obtained for HCon individuals in Experiment 1 (the PDG) and the patterns obtained for HCon individuals in the studies of Smeesters et al. (in press). In the previous experiments, rumination about partner beliefs tended to play a major role, which determined cooperative behavior. Therefore, as this complicated pattern of cooperative behavior for HCon individuals is similar to the previous mentioned studies, we believe that the same ruminating process may have played a role in the DG-other condition. Strong support for this assumption comes from the fact that we obtained the same pattern of other- and self-focus in the DG-other condition in Experiment 4 as in the PDG condition in Experiment 2. Further, if SVO and primes would directly

affect cooperative behavior in the DG-other, we should have obtained the same pattern of data as in the DG, which did not occur.

Experiment 6

LCon individuals always tend to be very vulnerable to primes, much more than HCon individuals. The difference is most remarkable in the DG. In this game, the level of other-focus appeared too low to instigate rumination about partner beliefs. Additionally, the level of self-focus was also moderate, and then the most dominant cue tends to dominate behavior. SVO completely dominated cooperative behavior of HCon individuals for all prime types, whereas it only influenced cooperative behavior of LCon individuals confronted with neutral primes. Primes however dominated the influence of SVO on cooperative behavior of LCon individuals. Hertel & Fiedler (1998) argued that individuals with HCon orientations have strong dispositions and should not be susceptible to priming. Individuals with LCon orientations, on the other hand, have weak orientations and should be very susceptible to priming.

The present experiment was conducted to test whether it is possible to override these priming effects for LCon individuals in the DG. In other words, is it possible to make LCon individuals behave as HCon individuals? We believe that this can be made possible by increasing the level of self-focus for these individuals. Under conditions of increased self-focus, individuals' relevant goals should become more accessible and individuals should be more inclined to bring one's behavior in line with their goals (Carver & Scheier, 1981; Gibbons, 1990; Higgins, 1996b). These goals should then inhibit action tendencies associated with primed constructs. Our expectation is that by increasing self-focus we

should be able to increase the activation level of the weak SVO of LCon individuals, thereby inhibiting the influence of stereotype primes on their cooperative behavior.

Experiment 6 included only LCon individuals who had to play a DG. Half of these participants had to perform a self-focus increasing task, whereas the other half had to perform a neutral task. Participants in this experiment were the LCon individuals to whom we referred in Experiment 5. For LCon individuals in the increased self-focus condition, we expected results to be similar to the results of HCon individuals in the DG of Experiment 3. For LCon individuals in the self-focus control condition, we expected results to be similar to the results of LCon individuals in Experiment 3.

More specifically, we predicted a significant interaction between stereotype primes and self-focus: the effect of primes was expected to be significant in the self-focus control condition but not in the increased self-focus condition (Hypothesis 1). Further, we also predicted effects of SVO, although differently for the increased self-focus and the control condition. In the increased self-focus condition, we predicted an effect of SVO in each priming condition (Hypothesis 2). In the self-focus control condition, SVO was only expected to influence cooperative behavior in the neutral priming condition (Hypothesis 3).

Method.

Participants and design. Participants were part of a larger group of 288 undergraduates who participated in Experiments 5 or 6 for partial fulfillment of course requirements. The design was a 2 (SVO: pro-social vs. pro-selfs) x 3 (stereotype primes: religious vs. neutral vs. business) x 2 (self-focus: increase vs. control) between-subjects design. The dependent variable was cooperative behavior in a DG.

Procedure. Participants were invited to the lab in groups of eight persons. After being welcomed in the lab and placed in individual cubicles, participants started the experiment by performing the Ring Measure of Social Values. Of the 135 LCon individuals that took part (see Experiment 5), 70 could be labeled as pro-socials and 63 as pro-selfs. Two participants could not be classified because they had an orientation vector of 22.5°.

Self-focus manipulation. Following a filler task, participants were confronted with a translation task, which was used to increase self-focus for half of the participants. Participants received 12 sentences written in Cyrillic Russian. In each sentence, one word had to be translated. For participants in the increased self-focus condition, all these words were first-person pronouns. Participants had to use the following words: I, me, my, myself, mine, or I myself. Earlier research has demonstrated that using first-person pronouns during a task increases self-focus (cf. Brewer & Gardner, 1996; Stapel & Tesser, 2001). For participants in the self-focus control condition, the "to-be-translated" words were all related to locations. They had to use the following words: city, village, place, parish, district, or hamlet. One participant reported being familiar with Russian. The data from this person were excluded from the analysis. As a consequence, 69 pro-socials and 63 pro-selfs were left for the analysis.

Following this task, participants were randomly assigned to one of the three priming conditions. All participants completed the DG used in Experiment 5. Finally, before being debriefed and thanked, participants completed a funneled debriefing procedure. None of the participants indicated any suspicion on the priming procedure or on any relatedness among tasks.

Results and discussions.

We conducted a 2 (SVO: pro-social vs. pro-self) x 3 (stereotype primes: religious vs. neutral vs. business) x 2 (self-focus: increase vs. control) between-participants ANOVA on the number of coins individuals allocated to the other in a DG. This analysis revealed two main effects. A main effect of SVO revealed that pro-socials ($M = 3.92$, $SD = 1.65$) allocated more coins toward the other than pro-selfs did ($M = 2.74$, $SD = 1.70$), $F(1, 120) = 18.11$, $p < .0001$. A main effect of primes, $F(2, 120) = 6.98$, $p < .01$, showed that religious primes ($M = 3.93$, $SD = 1.65$) elicited more cooperative behavior than neutral primes ($M = 3.39$, $SD = 1.81$) and that business primes ($M = 2.66$, $SD = 1.66$) elicited less cooperative behavior than neutral primes.

The two-way interaction between stereotype primes and self-focus was significant, $F(2, 120) = 3.60$, $p < .05$. This interaction revealed that priming had an effect in the self-focus control condition, $F(2, 120) = 9.59$, $p < .001$, but not in the increased self-focus condition, $F(2, 120) < 1$, ns. The means of this interaction are shown in Figure 5. For LCon individuals in the self-focus control condition, religious primes ($M = 4.42$, $SD = 0.98$) elicited more cooperative behavior than neutral primes ($M = 3.25$, $SD = 1.45$), $F(1, 120) = 5.63$, $p < .05$, and business primes ($M = 2.27$, $SD = 1.38$) elicited less cooperative behavior than neutral primes, $F(1, 120) = 4.01$, $p < .05$.

Insert Figure 5 about here

Furthermore, the effect of SVO on cooperative behavior appeared to be significant in each priming condition of the self-focus increase condition. LCon pro-socials cooperated

more than LCon pro-selfs in the religious priming condition ($M = 4.42$, $SD = 1.73$ vs. $M = 2.45$, $SD = 1.81$), $F(1, 120) = 8.76$, $p < .01$, the neutral priming condition ($M = 4.25$, $SD = 1.76$ vs. $M = 2.82$, $SD = 2.27$), $F(1, 120) = 4.67$, $p < .05$, and the business priming condition ($M = 3.75$, $SD = 1.48$ vs. $M = 2.36$, $SD = 1.96$), $F(1, 120) = 4.38$, $p < .05$. These results confirmed Hypothesis 2.

In the self-focus control condition, the effects of SVO appeared to be marginally significant in the neutral priming condition. LCon pro-socials cooperated more than LCon pro-selfs in the neutral priming condition ($M = 3.91$, $SD = 1.76$ vs. $M = 2.60$, $SD = 0.52$), $F(1, 120) = 3.56$, $p < .07$, but not in the religious priming condition ($M = 4.64$, $SD = 1.12$ and $M = 4.20$, $SD = 0.78$), $F(1, 120) < 1$, ns, and the business priming condition ($M = 2.55$, $SD = 1.37$ and $M = 2.00$, $SD = 1.41$), $F(1, 120) < 1$, ns. The difference between LCon pro-socials and LCon pro-selfs was significantly larger in the neutral priming condition than in the religious priming condition, $t(51) = 2.28$, $p < .01$, and the business priming condition, $t(51) = 1.74$, $p < .01$. Differences in means between LCon pro-socials and LCon pro-selfs did not differ between the religious priming condition and the business priming condition, $t(51) < 1$, ns.

Increasing self-focus inhibited priming effects on LCon individuals' cooperative behavior. Instead, their behavior was brought in line with their SVO, which is consistent with the literature (e.g., Gibbons, 1990). As a result, LCon individuals acted as if they were HCon individuals. Enhancing self-focus does not affect the activation of stereotypes, but rather their application (Dijksterhuis & Van Knippenberg, 1998; Macrae, Bodenhausen, & Milne, 1998). Therefore, the absence of priming effects cannot be attributed to the fact that enhanced self-focus does led to a more superficial processing of the priming material.

General discussion

The set of experiments we presented here illustrates how different experimental games yielded different patterns of cooperative behavior. Moreover, these games also differed in terms of other- and self-focus. Experiment 1 started from research by Smeesters et al. (in press), who demonstrated that SVO and primes strongly influenced expectations of partner's cooperation in a PDG. These expectations may then have been used to determine cooperative behavior. We replicated and extended this research by using stereotype primes instead of trait primes and by measuring participants' impressions about the partner. The interpretation of the observed intriguing behavioral pattern, with a strong non-cooperative reaction of HCon pro-selfs in the religious priming condition, supported the hypothesis that rumination about partner beliefs is a predominant cognitive activity in a PDG. We thought this may be expressed by way of an enhanced attention or focus to the partner. In Experiment 2, we demonstrated that playing a PDG led to enhanced other-focus but also to lowered self-focus. This latter finding could explain why primes overrode the effects of SVO on expectations and impressions.

Further, Experiment 2 also demonstrates that a DG does not have the same characteristics as the PDG in terms of other- and self-focus. Instead, this game represents moderate levels of other- and self-focus. Building on the assumption that rumination about partner beliefs does not play an important role in a DG, we hypothesized that SVO and primes would directly affect cooperative responses. Indeed, Experiment 3 suggests that SVO determine cooperative behavior for HCon individuals and that primes determine cooperative behavior for LCon individuals. These findings confirm Hertel & Fiedler's

(1998) results, which were also obtained in a situation in which rumination about partner's character were likely minimized.

The findings on cooperative behavior and other-and self-focus in Experiments 1-3 were obtained with procedures that differed from each other (e.g., sometimes different instructions, different amounts of cooperative behavior to be given to the partner). Therefore, we directly compared a classic DG with a similar DG that may instigate more rumination about partner beliefs (called DG-other). Experiment 4 replicated the results of Experiment 2. Experiment 5 was conducted with HCon individuals only and we replicated the results of Experiment 1 in the DG-other and the results of Experiment 3 in the DG condition.

Finally, because of their weak SVO, priming tends to dominate cooperative responses for LCon individuals in the DG. By enhancing self-focus, Experiment 6 demonstrated that these priming effects were eliminated and cooperative responses were brought in line with the own SVO (cf. Carver & Scheier, 1981; Gibbons, 1990; Higgins, 1996b).

Prisoner's Dilemma Game versus Dictator Game

One of the most important differences between the PDG and the DG lies in the (im)balance of power. A PDG has a balance of power: both interacting partners possess equal levels of control over one another's outcomes. This means that individuals are to some degree dependent on the actions of their partner. This dependence was also introduced in the DG-other. In both these games each individual can guarantee himself or herself good outcomes. A part of the final outcomes is, however, dependent on the partner's decision. It is this feeling of "partial dependence" which may instigate the strong other-focus that participants had in the PDG and in the DG-other. Previous research using

such situations demonstrated that participants are indeed strongly inclined to form partner beliefs, and to use these as a basis for cooperative decision-making (e.g., De Bruin & Van Lange, 1999a, 1999b; Herr, 1986; Kelley & Stahelski, 1970; Smeesters et al., in press; Van Lange & Kuhlman, 1994). Most individuals do this because they attach some importance to reciprocity: they want to reward people that want to be cooperative but punish them if they fail to cooperate. Even HCon pro-selfs were to some extent sensitive to partner beliefs and even use these as an ingredient in their decision processes. However, they may do this for different reasons. The neutral priming condition in the PDG already showed that HCon pro-selfs are fairly non-cooperative. In the religious and business priming conditions, HCon pro-selfs behaved sometimes more non-cooperatively than in the neutral priming condition (though not always significantly so). We believe that this pattern may be induced by specific feelings associated with the religious and business priming condition. When HCon pro-selfs expected the other to be a mighty non-cooperative individual (in the business priming condition) they may have acted even more non-cooperatively as a result of a competitive feeling (i.e., "I do not want to be beaten by the other"). When HCon pro-selfs expected the other to be a moral cooperative individual (in the religious priming condition) they may have acted more non-cooperatively as a result of an exploitation feeling (i.e., "a moral cooperative person is weak and therefore should be exploited", see Liebrand et al., 1986; Smeesters et al., in press).

A DG confronts interaction partners with an imbalance of power. Two people are involved but only one has to make a cooperative decision. Forming beliefs about the partner's behavioral intentions is disabled in the DG by the unilateral power distribution. People also tend to be less engaged in active impression formation (Roth, 1995).

Moreover, a dictator may sense strong feelings of independence and power, which may inhibit the enhancement of other-focus. In such a situation, inequality in power rather triggers goals, motivations or social norms (Eckel & Grossman, 1996; Forsythe et al., 1994; Johannesson & Persson, 2000; Van Dijk & Vermunt, 2000). In the case of HCon individuals, the unequal power distribution triggered their SVO. LCon individuals, however, were sensitive to primes, which may have activated social norms. Religious primes may have made a moral cooperative norm salient instigating participants to behave as a "benevolent" dictator. Business primes may have activated a mighty non-cooperative norm instigating individuals to behave as a "greedy" dictator. The social exchange literature often states that power imbalances result in unequal distribution of outcomes (e.g., Markowski, Willer, & Patton, 1988; Molm, Quist, & Wisely, 1994). However, the results obtained in the DG suggested that a confrontation with a powerless person does not always lead to strong self-interested behavior. Sometimes, people restrain their power use in order to reach a rather fair distribution of outcomes (i.e., HCon pro-socials in all priming conditions and LCon individuals in the religious priming condition).

Future research may examine social interactions differing in asymmetric dependence. In a PDG, both players possess the power to provide each other with good outcomes. In a DG, only one player possesses the power to provide the other with good outcomes. There may be social interactions in which both players have decision power although one player may have a greater control over the other player's outcomes than vice versa. It would be interesting to map out how rumination about the receiving player and priming effects evolve with shifts in the balance of power. .

Stereotype Priming

Although not the main interest of our paper, our results may contribute to the current debate on stereotype activation. As indicated earlier, unobtrusively activated stereotypes may influence both behavior and impression of others. It has been argued that behaviors can be triggered without intervention of impressions of the person with whom one is interacting (Bargh et al., 1996; Bargh, 1997). Social perceptions may play an intervening role but a review of the literature suggests that when behavior and impressions are measured in the same study, it is rather the behavioral measure that shows the predicted difference whereas the impression measures show weak or non-existing differences (Bargh, 1997). This is what happened in the DG in this paper: behavior was influenced by the primes but not impressions (see also Bargh et al., 1996, Experiment 1). Recently, Wheeler & Petty (2001) have argued that in some situations biased perception may be the best explanation for certain patterns of behavior. Biased perception is a mechanism whereby individuals exhibit behavioral changes because stereotype activation leads them to perceive the other differently. Smeesters et al. (in press) identified a PDG as such a situation in which a biased perception process may occur. In replicating their research we indeed found that impressions also became strongly affected by primes and provided the best explanation for the pattern of cooperative behavior in a PDG. We believe biased perception may be elicited by enhanced other-focus. In a situation in which this other-focus was only moderate (the DG), impressions were not affect by the primes and were not related to cooperative behavior. Therefore, future research may identify and examine more types of situations in which individuals are strongly focused to others and to their environment. We believe that in such situations, biased perception processes may likely

occur.

Strengths, Limitations, and Issues for Future Research

We like to close by shortly pointing out some strengths and limitations of our research. First of all, our study is among of the very few in social psychology to investigate the influence of person and situation factors on cooperative behavior in both a PDG and a DG. This yielded a highly interesting pattern of data, suggesting that different processes play a role to determine cooperative decision-making. Second, we tried to examine one of these cognitive processes by highlighting the role of other- and self-focus. Our paper is the first to touch on this issue in experimental games. We believe that these concepts play a significant role in cooperative decision-making and future research may explore them to provide a deeper and better insight in what happens in these games.

Our research also has some limitations. First, SVO and consistency were assessed shortly before participants played their game and might have induced demand characteristics. However, previous research showed that SVO, measured a substantial amount of time in advance, still affected behavior in the predicted ways (e.g., McClintock & Allison, 1989). Second, in Experiments 1-3 we used hypothetical games: participants received chips and had to imagine that these represented actual money. We tried to increase realism in Experiments 4-6 by giving the participants real coins. Still, the sums involved were rather low. Therefore, our games might have provoked only low involvement. It could be fruitful to replicate our research with more involving games. Third, and as already said, the present experiments yielded information on how a PDG and a DG differ from each other with respect to the role of other- and self-focus. However, our

results do not speak to the relationship among the measures within a situation. Our data may be a starting point for more process-oriented research. Some interesting issues request further attention. It could be interesting to examine what would happen if one increases self-focus in a PDG. Does it decrease other-focus? Does it bring level of other- and self-focus to the levels observed in the DG or does it increase self-focus even more? Could we expect cooperative behavior in such a situation to be in line with the results we obtained in the DG (Experiment 3)? It could also be interesting to observe what happens when one increases other-focus in a DG. This may lead individuals to ruminate more about partner's character and to use the resulting impressions as an antecedent of cooperative decisions. For instance, religious primes may then elicit the impression of a moral other. In such a situation, some individuals (e.g., pro-socials) may be willing to allocate more than in business priming condition, which may elicit a mighty impression of the other.

Finally, future research may also address the following issue concerning the role of self-focus and the role of SVO in interdependence dilemmas. Individuals participating in these dilemmas had lowered self-focus, which explained the fact that primes overrode the effects of self-related concepts such as SVO on the expectations and impression formation process. However, although self-focus was lowered, SVO still played a role in the cooperative decision-making process, whereas one would expect that this role then would also be attenuated. Research therefore should resolve how it is possible that under lowered levels of self-focus, choices towards the disambiguated interaction partner are still affected by SVO.

References

Banaji, M.R., Hardin, C.D., & Rothman, A.J. (1993). Implicit stereotyping in person judgment. Journal of Personality and Social Psychology, 65, 272-281.

Bargh, J.A. (1994). The four horsemen of automaticity: Awareness, intention, efficiency, and control in social cognition. In E.T. Higgins & R.M. Sorrentino (Eds.), Handbook of motivation and cognition (Vol. 2, pp. 93-130). New York: Guilford Press.

Bargh, J.A. (1997). The automaticity of everyday live. In R.S. Wyer & T.K. Srull (Eds.), Advances in social cognition (Vol. 10, pp. 1-61). Hillsdale, NJ: Erlbaum.

Bargh, J.A., & Chartrand, TL. (2000). The mind in the middle: A practical guide to priming and automaticity research. In H. Reis & C. Judd (Eds.), Handbook of research methods in social psychology (pp. 253-285). New York: Cambridge University Press.

Bargh, J.A., Chen, M., & Burrows, L. (1996). Automaticity of social behavior: Direct effects of trait construct and stereotype action on construct accessibility. Journal of Personality and Social Psychology, 50, 869-878.

Bargh, J.A., & Ferguson, M.J. (2000). Beyond behaviorism: On the automaticity of higher mental processes. Psychological Bulletin, 126, 925-945.

Bohnet, I., & Frey, B.S. (1999). The sound of silence in prisoner's dilemma and dictator games. Journal of Economic Behavior and Organization, 38, 43-57.

Bolton, G.E., Katok, E., Zwick, R.H. (1995). Dictator game giving: Rules of fairness versus acts of kindness. International Journal of Game Theory, 27, 269-299.

Brewer, M.B. (1988). A dual process model of impression formation. In T.K. Srull & R.S. Wyer (Eds.), Advances in Social Cognition (Vol. 1, pp. 1-36). Hillsdale, NJ: Erlbaum.

Brewer, M., & Gardner, W. (1996). Who is this "we"? Levels of collective identity and self representation. Journal of Personality and Social Psychology, 71, 83-93.

Carver, C.S. & Scheier, M.F. (1981). Attention and self-regulation: A control-theory approach to human behavior. New York: Springer-Verlag.

Chartrand, T.L., & Bargh, J.A. (1996). Automatic activation of impression formation and memorization goals: Nonconscious goal priming reproduces effects of explicit task instructions. Journal of Personality and Social Psychology, 71, 464-478.

De Bruin, E.N.M., & Van Lange, P.A.M. (1999a). Impression formation and cooperative behavior. European Journal of Social Psychology, 29, 305-328.

De Bruin, E.N.M., & Van Lange, P.A.M. (1999b). The double meaning of a single act: Influences of the perceiver and the perceived on cooperative behavior. European Journal of Personality, 13, 165-182.

De Bruin, E.N.M., & Van Lange, P.A.M. (2000). What people look for in others: Influences of the perceiver and the perceived on information selection. Personality and Social Psychology Bulletin, 26, 206-219.

De Dreu, C.K.W., & Van Lange, P.A.M. (1995). The impact of social value orientation on negotiator cognition and behavior. Personality and Social Psychology Bulletin, 21, 1178-1188.

De Dreu, C.K.W., Yzerbyt, V., & Leyens, J.-P. (1995). Dilution of stereotype-based cooperation in mixed-motive interdependence. Journal of Experimental Social Psychology, 31, 575-593.

Deutsch, M. (1975). Equity, equality, and need: What determines which value will be used on the basis of distributive justice? Journal of Social Issues, 31, 137-149.

Devine, P.G. (1989). Stereotypes and prejudice: Their automatic and controlled component. Journal of Personality and Social Psychology, 56, 5-18.

Dijksterhuis, A., Aarts, H., Bargh, J.A., & Van Knippenberg, A. (2000). On the relation between associative strength and automatic behavior. Journal of Experimental Social Psychology, 36, 531-544.

Dijksterhuis, A., & Bargh, J.A. (2001). The perception-behavior expressway: Automatic effects of social perception on social behavior. In M. Zanna (Ed.), Advances in Experimental Social Psychology (Vol. 33, pp. 1-40). Hillsdale, NJ: Lawrence Erlbaum Associates.

Dijksterhuis, A., & Van Knippenberg, A. (1998). The relation between perception and behavior or how to win a game of Trivial Pursuit. Journal of Personality and Social Psychology, 74, 865-877.

Dijksterhuis, A., & Van Knippenberg, A. (2000). Behavioral indecision: Effects of self-focus on automatic behavior. Social Cognition, 18, 55-74.

Duval, S. & Wicklund, R.A. (1972). A theory of objective self-awareness. San Diego: Academic Press.

Eckel, C.C., & Grossman, P.J. (1996). Altruism in anonymous dictator games. Games and Economic Behavior, 16, 181-191.

Fiske, S.T. (1998). Stereotyping, prejudice, and discrimination. In D.T. Gilbert, S.T. Fiske, G. Lindzey (Eds.), Handbook of Social Psychology (pp. 357-411). New York: McGraw-Hill.

Fiske, S.T., & Neuberg, S.L. (1990). A continuum of impression formation, from category-based to individuating processes: Influences of information and motivation on attention and stereotypes. In M.P. Zanna (Ed.), Advances in experimental social psychology (Vol. 23, pp. 1-74). San Diego: Academic Press.

Forsythe, R., Horowitz, J.L., Savin, N.E., & Sefton, M. (1994). Fairness in simple bargaining experiments. Games and Economic Behavior, 6, 347-369.

Gibbons, F.X. (1990). Self-attention and behavior: A review and theoretical update. In L. Berkowitz (Ed.), Advances in Experimental Social Psychology, 23, 249-303.

Herr, P.M. (1986). Consequences of priming: Judgment and behavior. Journal of Personality and Social Psychology, 51, 1106-1115.

Hertel, G., & Fiedler, K. (1994). Affective and cognitive influences in a social dilemma game. European Journal of Social Psychology, 24, 131-145.

Hertel, G., & Fiedler, K. (1998). Fair and dependent versus egoistic and free: Effects of semantic and evaluative priming on the 'Ring Measure of Social Values'. European Journal of Social Psychology, 28, 49-70.

Hertel, G., & Kerr, N. (2001). Priming ingroup favoritism: The impact of normative scripts in the minimal group paradigm. Journal of Experimental Social Psychology, 37, 316-324.

Higgins, E.T. (1996a). Knowledge activation: Accessibility, applicability, and salience. In E.T. Higgins & A.W. Kruglanski (Eds.), Social psychology: Handbook of basic principles (pp. 133-168). New York: Guilford.

Higgins, E.T. (1996b). The "Self Digest": Self-knowledge serving self-regulatory functions. Journal of Personality and Social Psychology, 71, 1062-1083.

Higgins, E.T., & King, G.A. (1981). Accessibility of social constructs: Information processing consequences of individuals and contextual variability. In N. Cantor & J. Kihlstrom (Eds.), Personality, cognition, and social interaction (pp. 69-121). Hillsdale, NJ: Erlbaum.

Higgins, E.T., Rholes, W.S., & Jones, C.R. (1977). Category accessibility and impression formation. Journal of Experimental Social Psychology, 13, 141-154.

Hoffman, E., McCabe, K., & Smith, V.L. (1996). Social distance and other-regarding behavior in dictator games. American Economic Review, 86, 653-660.

Johannesson, M., & Persson, B. (2000). Non-reciprocal altruism in dictator games. Economics Letters, 69, 137-142.

Kelley, H.H., & Stahelski, A.J. (1970). Social interaction basis of cooperators' and competitors' beliefs about others. Journal of Personality and Social Psychology, 16, 66-91.

Kelley, H.H., & Thibaut, J. (1978). Interpersonal relations. New York: Wiley.

Kramer, R.M., McClintock, C.G., & Messick, D.M. (1986). Social values and cooperative response to a simulated resource conservation crisis. Journal of Personality, 54, 101-117.

Kuhlman, D.M., & Marshello, A. (1975). Individual differences in game motivation as moderators of preprogrammed strategic effects in prisoner's dilemma. Journal of Personality and Social Psychology, 32, 922-931.

Liebrand, W.B.G. (1984). The effect of social motives, communication and group size on behavior in an N-person multi-stage, mixed-motive game. European Journal of Social Psychology, 14, 239-246.

Liebrand, W.B.G., Jansen, R.W.T.L., Rijken, V.M., & Suhre C.J.M. (1986). Might over morality: The interaction between social values and the interpretation of decision-making in experimental games. Journal of Experimental Social Psychology, 22, 203-215.

Liebrand, W.B.G., & McClintock, C.G. (1988). The ring measure of social values: A computerized procedure for assessing individual differences in information processing and social value orientation. European Journal of Personality, 2, 217-230.

Liebrand, W.B.G., & Van Run, G.J. (1985). The effects of social motives on behavior in social dilemmas in 2 cultures. Journal of Experimental Social Psychology, 21, 86-102.

Macrae, C.N., Bodenhausen, G.V., & Milne, A.B. (1998). Say no to unwanted thoughts: Self-focus and the regulation of mental life. Journal of Personality and Social Psychology, 74, 578-589.

Markowski, B., Willer, D., & Patton, T. (1988). Power relations in exchange networks. American Sociological Review, 53, 220-236.

McClintock, C.G. (1972). Social motivation - A set of propositions. Behavioral Science, 17, 438-454.

McClintock, C.G., & Allison, S.T. (1989). Social value orientation and helping behavior. Journal of Applied Social Psychology, 19, 353-362.

McClintock, C.G., & Liebrand, W.B.G. (1988). Role of interdependence structure, individual value orientation and another's strategy in social decision making: A transformational analysis. Journal of Personality and Social Psychology, 55, 396-409.

Messick, D.M., & McClintock, C.G. (1968). Motivational bases of choice in experimental games. Journal of Experimental Social Psychology, 4, 1-25.

Molm, L.D., Quist, T.M., & Wisely, P.A. (1994). Imbalanced structures, unfair strategies: Power and justice in social exchange. American Sociological Review, 59, 98-121.

Neuberg, S.L. (1988). Behavioral implications of information presented outside of conscious awareness: The effect of subliminal presentation of trait information on behavior in the prisoner's dilemma game. Social Cognition, 6, 207-230.

Roth, A.E. (1995). Bargaining experiments. In J.H. Kagel & A.E. Roth (Eds.), Handbook of Experimental Economics (pp. 253-348). Princeton University Press: Princeton.

Rusbult, C.E., Verette, J., Whitney, G.A., Slovik, L.F., & Lipkus, I. (1991). Accommodation processes in close relationships: Theory and preliminary empirical evidence. Journal of Personality and Social Psychology, 60, 53-78.

Sattler, D.N., & Kerr, N.L. (1991). Might versus morality explored: Motivational and cognitive bases for social motives. Journal of Personality and Social Psychology, 60, 756-765.

Smeesters, D., Warlop, L., & Van Avermaet, E. (2002). Exploring the Role of Consistency of Social Value Orientation: Temporal Stability, Reciprocal Cooperation, and Forgiveness. Unpublished Manuscript, Katholieke Universiteit Leuven.

Smeesters, D., Warlop, L., Van Avermaet, E., Corneille, O., & Yzerbyt, V. (in press). Do not prime hawks with doves: The interplay of consistency of social value orientation and construct activation on cooperative behavior. Journal of Personality and Social Psychology.

Snyder, M., & Ickes (1985). Personality and social behavior. In G. Lindzey & E. Aronson (Ed.), Handbook of social psychology (pp. 883-947). New York: Random House.

Stapel, D.A., & Tesser, A. (2001). Self-activation increases social comparison. Journal of Personality and Social Psychology, 81, 742-750.

Van Dijk, E., & Vermunt, R. (2000). Strategy and fairness in social decision making: Sometimes it pays to be powerless. Journal of Experimental Social Psychology, 36, 1-25.

Van Lange, P.A.M. (1999). The pursuit of joint outcomes and equality in outcomes: An integrative model of social value orientation. Journal of Personality and Social Psychology, 77, 337-349.

Van Lange, P.A.M. (2000). Beyond self-interest: A set of propositions relevant to interpersonal orientations. In W. Stroebe & M. Hewstone (Eds.), European Review of Social Psychology (Vol. 11, pp. 297-331). New York: Wiley.

Van Lange, P.A.M., Agnew, C.R., Harinck, F., & Steemers, G.E.M. (1997a). From game theory to real life: How social value orientation affects willingness to sacrifice in ongoing close relationships. Journal of Personality and Social Psychology, 73, 1330-1344.

Van Lange, P.A.M., & Kuhlman, D.M. (1994). Social value orientations and impressions of a partner's honesty and intelligence: A test of the might versus morality effect. Journal of Personality and Social Psychology, 67, 126-141.

Van Lange, P.A.M., & Liebrand, W.B.G. (1989). On perceiving morality and potency: Social values and the effects of person perception in a give-some dilemma. European Journal of Personality, 3, 209-225.

Van Lange, P.A.M., & Liebrand, W.B.G. (1991a). Social value orientation and intelligence: A test of the goal-prescribes-rationality principle. European Journal of Social Psychology, 21, 273-292.

Van Lange, P.A.M., & Liebrand, W.B.G. (1991b). The influence of other's morality and own social value orientation on cooperation in the Netherlands and the U.S.A. International Journal of Psychology, 26, 429-449.

Van Lange, P.A.M., Rusbult, C.E., Drigotas, S.M., Arriage, X.B., Witcher, B.S., & Cox, C.L. (1997b). Willingness to sacrifice in close relationships. Journal of Personality and Social Psychology, 72, 1373-1395.

Van Vugt, M., Meertens, R.M., & van Lange, P.A.M. (1995). Car versus public transportation? The role of social value orientations in a real-life social dilemma. Journal of Applied Social Psychology, 25, 258-278.

Wheeler, S.C., & Petty, R.E. (2001). The effects of stereotype activation on behavior: A review of possible mechanisms. Psychological Bulletin, 127, 797-826.

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Footnotes

[1] This measure is mostly used to assess social value orientations. It is a computerized task presenting 24 choice trials, with each trial consisting of two different distributions of outcomes for self versus another person. A maximal consistency score on the Ring Measure implies that the participant chooses all distributions of self/other outcomes consistent with his/her own social value orientation (Liebrand, 1984). The consistency score on the Ring Measure decreases when individuals choose according another orientation on some trials.

[2] Because the Ring Measure is mostly used to measure social value orientations, an important instruction for participants is that they have to imagine that they are playing against an unknown partner who they will never meet. This imagination is important to reduce rumination about a partner's behavioral intentions and to increase the value of the Ring Measure as a pure measure of social value orientations.

[3] At the time we conducted this experiment (and also Experiments 2 and 3) the Euro was not yet introduced in the countries of the European Union.

[4] In none of our experiments, we used words like cooperation, non-cooperation, pro-social or pro-self behavior in the instructions.

[5] We found no effects of different expectation-choice orders.

[6] We also assessed each participant's social value orientation and the consistency of it by using the Ring Measure of Social Values. These factors however did not impact on the level of other- and self-focus for the different experimental conditions ($\underline{Fs} < 1$). Therefore, we will not report anymore on these factors in Experiment 2.

[7] This counterbalancing factor did not have any effect on the results ($\underline{F} < 1$).

[8] As in Experiment 2, we also assessed each participant's social value orientation and the consistency of it by using the Ring Measure of Social Values. These factors did not impact on the level of other- and self-focus for the different experimental conditions (Fs < 1). Therefore, these factors will not be reported in Experiment 4.

[9] The counterbalancing factor did not have any effect on the results (F < 1).

[10] A post-hoc classification by using a median split matched the classification obtained with the a priori criteria.

Figure 1.

Mean Cooperative Behavior as a Function of Social Value Orientation, Consistency and Stereotype Primes (Experiment 1)

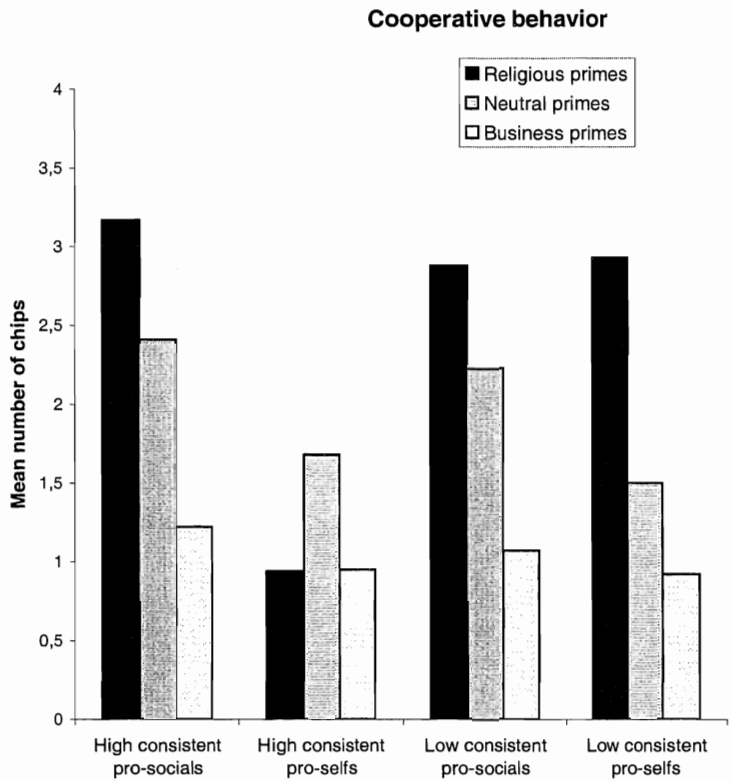

Figure 2.

Mean Expectations of Partner's Cooperation as a Function of Social Value Orientation and Stereotype Primes (Experiment 1)

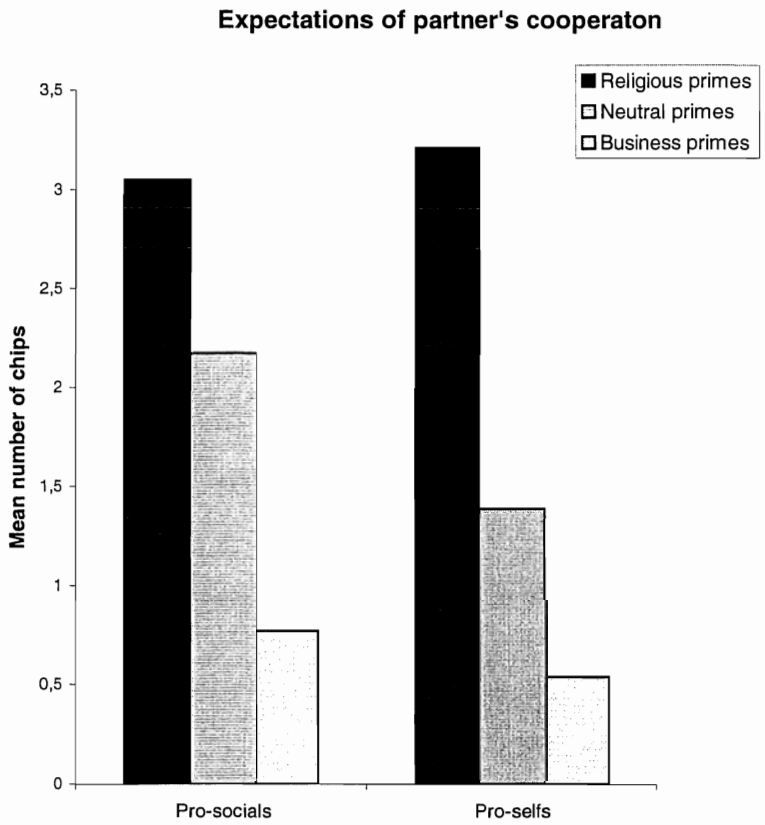

Figure 3.

Mean Cooperative Behavior as a Function of Consistency and Stereotype Primes (Experiment 3)

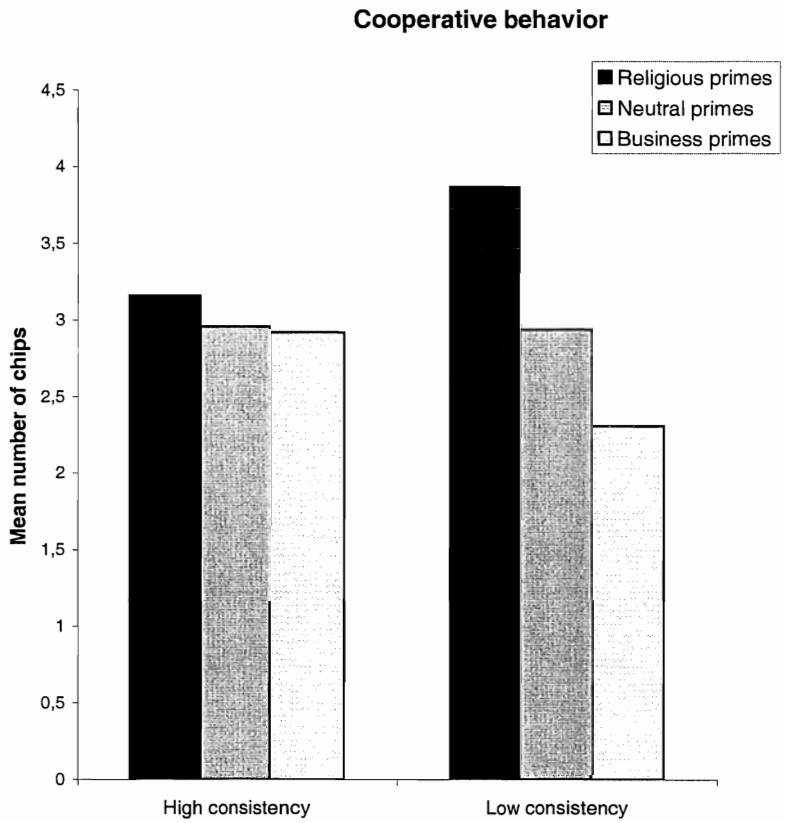

Figure 4.

Mean Cooperative Behavior as a Function of Social Value Orientation, Consistency, and Stereotype Primes (Experiment 5)

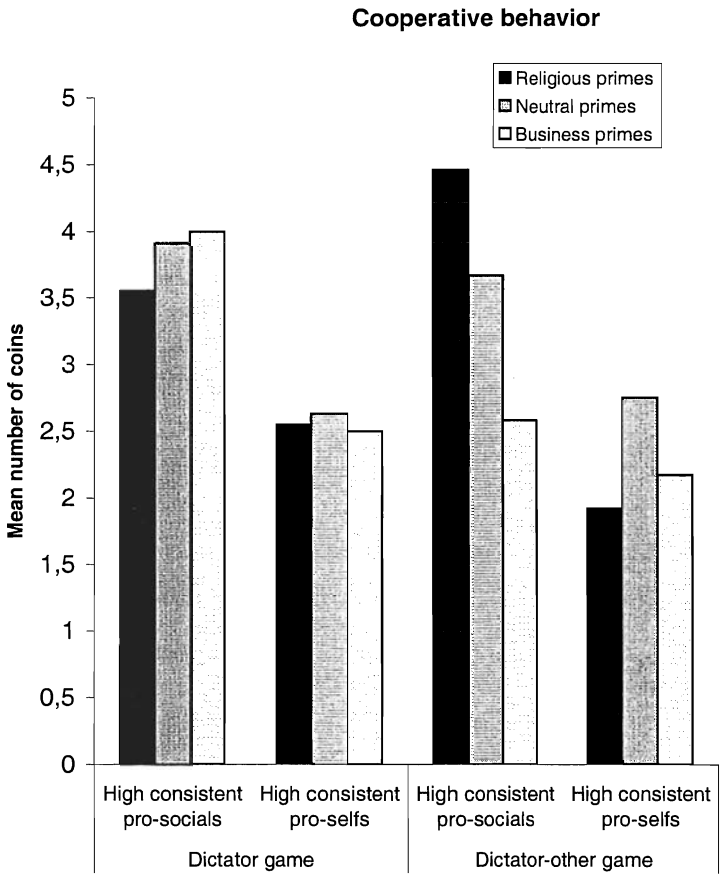

Figure 5.

Mean Cooperative Behavior as a Function of Stereotype Primes and Self-Focus (Experiment 6)